Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27.07.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 046 881

Injection pump

Pump designation : PES6P110A320RS3329 EP type number : 0 412 016 743

Governor

Governer design. : RQ325...1250PA1370

Governer no. : 0 421 801 828

Cust. part No. : 1305236/2

Customer-spec. information Customer : DAF

Motor : NS177M Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

: 140 min. L/h Tolerance l/h: \leftarrow 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 2.0

x inside diameter : 6.0 600 x Length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 5.25 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Start of delivery mark

: ← 0.10 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.25 Tolerance mm : \leftarrow 0.05

	+ guide sleeve
Del. quantity	travel mm : 3.48
cm3/1000 strokes : 149.5	+ Tolerance mm : +- 0.10
Talonana	+ Rated speed rpm : 590
Tolerance em3/1000 strokes : +- 1.0	+ guide sleeve
SHOT TOOK SET ONES . T. T.O	travel mm : 6.00
Check tolerance	+ Tolerance mm : + 0.10
cm3/1000s. : +- 4.0	+
	+ Rated speed rpm : 1460
Spreed	+ guide sleeve + travel mm : 11.50
Tolerance	+ Tolerance mm : +- 0.50
cm3/1000 strokes : 8.0	+
Check tolerance	† GUIDE SLEEVE POSITION
cm3/1000s. : 12.0	Ī
	T control lever
	position degree : 109
Rated speed rpm : 325	+
	+ control lever
Rack travel in mm: 4.40	+ position degree : 109
Tolerance mm : + 0.10	Rated speed rpm : 600
Del. quantity cm3/1000 strokes : 26.0	Rack travel in mm: 20.00
Tolerance	+ Tolerance mm : + 0.80
cm3/1000 strokes : +- 3.0	+
Check tolerance	
cm3/1000s. : +- 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed Tolerance	Rated speed rpm : 1000
cm3/1000 strokes : 4.0	+ Aneroid pressure
Check tolerance	+ hPa : 1500
cm3/1000s. : 8.0	+ Del. quantity
	cm3/1000 strokes : 149.5 Tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000 strokes : +- 1.0
WITH GOVERNOR	+ Check tolerance
	+ cm3/1000s. : +- 4.0
	+ Spreed
GUIDE SLEEVE TRAVEL	+ Tolerance
Rated speed rpm : 1292	+ cm3/1000 strokes : 8.0 + Check tolerance
Rated speed rpm : 1292 guide sleeve	- cm3/1000s. : 12.0
travel mm : 6.37	+
Tolerance mm : + 0.15	+
P. Andrews and press	CONTROL LEVER
Rated speed rpm : 325 guide sleeve	+ CONTROL LEVER
travel mm : 1.99	T control lever
Tolerance mm : + 0.20	position degree : 97.0
	tolerance degree : +- 4.0
Rated speed rpm : 1000	†
guide sleeve	RATED SPEED
travel mm : 6.00 Tolerance mm : +- 0.10	+ rack travel mm : 11.25 + Rated speed rpm : 1290
TOLET AFFICE THAT	+ Tolerance 1/min : + 5
Rated speed rpm : 426	+ Check
	+ speed 1/min : +- 10

rack travel mm : 4.00 Rated speed rpm : 1370 4.00 Tolerance 1/min : + 15 Check speed 1/min : +- 20 LOW IDLE control lever position degree : 75.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 225 CRT mm min. :> 6.00Testing: Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 415 Tolerance 1/min : +- 20 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.25 Tolerance mm : +- 0.05 Rated speed rpm : 1250 rack travel mm : 12.25 Tolerance mm : \leftarrow 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 600 Pressure hPa : 1500 : 12.25 rack travel mm Tolerance mm : \leftarrow 0.05 Rated speed rpm : 600

Pressure hPa rack travel mm : 7.00
Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 600 Pressure hPa : 430 rack travel mm : 10.90 Tolerance mm : \leftarrow 0.05 Pressure hPa : 220 rack travel mm : 7.85 Tolerance mm : ← 0.10 FUEL DELIVERY CHARACTERISTICS Aneroid pressure Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 92.0 Tolerance cm3/1000 strokes : \leftarrow 1.0 Check tolerance : +- 4.0 cm3/1000s. LOW IDLE Rated speed rpm : 325 Rack travel in mm : 4.40 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- c.0Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance 8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Fdition Test oil : 27.07.98 : ISO 4113

Combination No. : 0 402 046 882

Injection pump

Pump designation : PES6P110A320RS3329

EP type number : 0 412 016 743

Governor

Governer design. : RQV325...1250PA1385

Governer no.

: 0 421 814 209

Cust. part No. : 1351707/1

Customer-spec. information

Customer : DAF

Motor

: NS177M-CBP

Power KW

: 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 417 413 000

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Overflow quantity

min. L/h : 140

Tolerance l/h: \leftarrow 20.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x tenath mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 5.25 : + n ne Prestroke mm

Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 12.80

Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2

: 0- 60- 120- 180 Phasing

: - 240- 300

: + - 0.50Tolerance

Check

tolerance "NW : +- 0.70

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance °NW : +- 0.70

Barrel no.

BASIC SETTING

Rated speed rpm :

1000

	1
Rack travel in mm : 12.80	Rated speed rpm : 520
Tolerance mm : +- 0.05	guide sleeve
	+ travel mm : 3.02
Del. quantity	+ Tolerance mm : +- 0.25
cm3/1000 strokes : 154.5	+
	+ Rated speed rpm : 1510
Tolerance	+ guide sleeve
cm3/1000 strokes : +- 1.0	† travel mm : 13.50
	Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : +- 4.0	Ť
CIII37 10003 +- 4.0	GUIDE SLEEVE POSITION
Spreed	10102 322242 103111011
op. 202	+
Tolerance	+ control lever
cm3/1000 strokes : 5.0	position degree : - 1
	+ Rated speed rpm : 1360
Check tolerance	+
cm3/1000s. : 9.0	+ Rack travel in mm : 11.80
	+ Tolerance mm : + 1.30
	Ť
Rated speed rpm : 325	FULL LOAD DELIVERY AT FULL LOAD STOP
Nated Speed I pill . Ses	TOLE LOAD DELIVERY AT TOLE LOAD STOT
Rack travel in mm: 4.40	Rated speed rpm : 1000
Tolerance mm : +- 0.10	+ Aneroid pressure
Del. quantity	+ hPa : 1500
cm3/1000 strokes : 26.0	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 154.5
cm3/1000 strokes : + 2.5	+ Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 6.0	+ Check tolerance
Spreed	+ cm3/1000s. : +- 4.0
Tolerance	+ Spreed
cm3/1000 strokes : 8.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	+ Check tolerance + cm3/1000s. : 9.0
	T (11137 10003 9.0
(B) SETTING OF INJECTION PUMP	1
WITH GOVERNOR	
	+ CONTROL LEVER
	+
GUIDE SLEEVE TRAVEL	+ control lever
4707	+ position degree : 123.0
Rated speed rpm : 1303	tolerance degree : + 4.0
guide sleeve travel mm : 10.33	RATED SPEED
	+ rack travel mm : 11.80
Tolerance mm : +- 0.15	Rated speed rpm : 1290
Rated speed rpm : 325	Tolerance 1/min : +- 5
guide sleeve	Check
travel mm : 1.25	speed 1/min : + 10
Tolerance mm : + 0.20	+
	+ rack travel mm : 4.00
Rated speed rpm : 865	+ Rated speed rpm : 1375
guide sleeve	+ Tolerance 1/min : +- 15
travel mm : 5.43	+ Check
Tolerance mm : +- 0.25	+ speed 1/min : +- 20

rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500

LOW IDLE

control lever

position degree : 77.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : + 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 12.80 Tolerance mm : +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 12.80
Tolerance mm : +- 0.05

Rated speed rpm : 600
Pressure hPa : rack travel mm : 7.10
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 210 rack travel mm : 8.60 Tolerance mm : + 0.10

Pressure hPa : 410 rack travel mm : 11.40 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 1000

Del. quantity cm3/1000 strokes : 93.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000S. : +- 4.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000S : 12.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 4.43
Tolerance mm: +- 0.10
Del. quantity

cm3/1000 strokes : 26.0

Tolerance cm3/1000 strokes : +- 2.5

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.07.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 074 700

Injection pump

Pump designation : PES4P110B720RS3383 EP type number : 0 412 014 701

Governor

Governer design. : RSV300...1100P1A667

Governer no. : 0 421 833 582

Cust. part No. : 9882855

Customer-spec. information Customer : LIEBHERR

: D 924 TI-E A2 Motor

: 137.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C 40 Tolerance °C : ← 2.0

Overflow valve : 1 417 413 049

1.5 Inlet press. bar : Tolerance bar : +- 0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 207.0 bar Tolerance bar : + 1.5

Test lines : 1 680 750 008 Outside diameter : 6.0

2.0 x inside diameter : 600

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 3.20 : + 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 4-2-1-3

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 12.10

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 173.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : ← 3.5

Spreed

Tolerance cm3/1000 strokes : 4.0	+ Check tolerance - cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	
	CONTROL LEVER
Rated speed rpm : 400	control lever position degree : 105.0 tolerance degree : + 4.0
Rack travel in mm : 4.35 Tolerance mm : +- 0.10 Del. quantity	RATED SPEED
cm3/1000 strokes : 27.0 Tolerance	rack travel mm : 4.00 Rated speed rpm : 1080
cm3/1000 strokes : +- 3.0 Check tolerance	+ Tolerance 1/min : +- 15 +
cm3/1000s. : +- 5.5 Spreed	ASSEMBLY GOVERNOR SETTING
Tolerance cm3/1000 strokes : 4.5 Check tolerance	Rated speed rpm : 1028 rack travel mm : 11.10
cm3/1000s. : 7.5	Rated speed rpm : 1083 Tolerance 1/min : +- 4
(B) SETTING OF INJECTION PUMP	rack travel mm : 4.00
WITH GOVERNOR	Rated speed rpm : 1029
	+ rack travel mm : 11.10 +
GUIDE SLEEVE POSITION -	Rated speed rpm : 1084 Tolerance 1/min : +- 4 rack travel mm : 4.00
control lever position degree : - 3	T TACK (Tave(Mill) . 4.00
Rated speed rpm : 800	Rated speed rpm : 1030 rack travel mm : 11.10
Rack travel in mm : 0.50 - Tolerance mm : +- 0.20 -	Rated speed rpm : 1085
governor spring	Tolerance 1/min : +- 4 rack travel mm : 4.00
pre-tension - click setting x : 5.00 -	1074
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1031 rack travel mm : 11.10
•	Rated speed rpm : 1086 Tolerance 1/min : +- 4
Rated speed rpm : 980 - Aneroid pressure -	Tolerance 1/min : +- 4 rack travel mm : 4.00
hPa : 1220 - Del. quantity -	
cm3/1000 strokes : 173.0 - Tolerance -	Rated speed rpm : 1032 rack travel mm : 11.10
cm3/1000 strokes : + 1.0 - Check tolerance	Rated speed rpm : 1087
cm3/1000s. : +- 3.5	Tolerance 1/min : +- 4
Spreed -	rack travel mm : 4.00
cm3/1000 strokes : 4.0	Rated speed rpm : 1033

rack travel mm : 11.10 Rated speed rpm : 1088 Tolerance 1/min : +- 4 rack travel mm : 4.00	- MEASUREMENT - Rated speed rpm : 500 - Pressure hPa : 730 - rack travel mm : 11.80
LOW IDLE	- Tolerance mm : +- 0.05 -
control lever position degree : 78.0 tolerance degree : + 4.0	- Pressure hPa : 670 - rack travel mm : 11.30 - Tolerance mm : + 0.10 -
Setting point w/out bumper spring Rated speed rpm : 400	- FUEL DELIVERY CHARACTERISTICS
rack travel mm : 3.85 Tolerance mm : +- 0.10	- Aneroid pressure - hPa : 1220
Testing: Rated speed rpm : 400	- Rated speed rpm : 500 - Del. quantity - cm3/1000 strokes : 193.5
rack travel mm : 4.35 Tolerance mm : +- 0.10	- Tolerance - cm3/1000 strokes : +- 3.0 - Check tolerance
rack travel mm : 2.00 + Rated speed rpm : 495 + Tolerance 1/min : + 50 + Tolerance 1/min : + 50	cm3/1000s. : + 6.0
TORQUE CONTROL Rated speed rpm : 980 rack travel mm : 12.10 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 12.10 Tolerance mm : + 0.10 Rated speed rpm : 700	Aneroid pressure - hPa : 1220 - Rated speed rpm : 700 - rack travel mm : 12.10 - Tolerance mm : +- 0.10 - Del. quantity - cm3/1000 strokes : 186.5 - Tolerance - cm3/1000 strokes : +- 3.0 - Check tolerance - cm3/1000s. : +- 6.0
rack travel mm : 12.10 Tolerance mm : + 0.10	Aneroid pressure hPa : - Rated speed rpm : 500
ANEROID/ALTITUDE COMPENSATOR TEST	Del. quantity cm3/1000 strokes : 170.0 Tolerance
SETTING	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.5
Rated speed rpm : 500 Pressure hPa : 1220 rack travel mm : 12.10 Tolerance mm : + 0.10	STARTING FUEL DELIVERY
Rated speed rpm : 500 Pressure hPa : - rack travel min : 10.90 Tolerance mm : + 0.10	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 150.0

Tolerance cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000S. : +- 19.0

LOW IDLE

cm3/1000s.

Rated speed rpm : 400 Rack travel in mm: 4.35 : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 27.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance 5.5 cm3/1000s. : +-Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance

: 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 29.07.98 : ISO 4113

Combination No. : 0 402 086 704

Injection pump

Pump designation : PES6P100B321RS3388

EP type number : 0 412 006 714

Governor

Governer design. : RSV400...1125P0A699

Governer no. : 0 421 833 625

Cust. part No. : 51.11103-7607

Customer-spec. information

Customer : MAN

Motor

: D0826 LE531

Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0 : +-

Overflow valve : 1 417 413 047

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150

Tolerance l/h: + 20.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

A11

Test lines : 1 680 750 008

Ourside diameter : 6.0

x inside diameter :

2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : +- 1.0

Prestroke mm : 3.30

· · +- 0.05 Tolerance mm

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 13.50

Tolerance mm : +- 0.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Start of delivery blocking

Tolerance

: **←** 0.10

Check

tolerance °NW : +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 14.10 - Tolerance mm : + 0.05 -	+ Aneroid pressure + hPa : 1500 + Del. quantity
Del. quantity	- cm3/1000 strokes : 174.0 - Tolerance
cm3/1000 strokes : 174.0	cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance cm3/1000 strokes : + 1.0	cm3/1000s. : +- 4.0 Spreed Tolerance
Check tolerance cm3/1000s. : +- 4.0	cm3/1000 strokes : 4.0 - Check tolerance - cm3/1000s. : 6.0
Spreed	1 0.0
Tolerance - cm3/1000 strokes : 4.0 -	RATED SPEED rack travel mm : 12.60 Rated speed rpm : 1175
Check tolerance - cm3/1000s. : 6.0 -	Tolerance 1/min : +- 5
	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1400
Rated speed rpm : 400	rack travel mm : 4.00
Rack travel in mm: 4.90 - Tolerance mm: +- 0.10 - Del. quantity	Rated speed rpm : 1270 Tolerance 1/min : +- 15
cm3/1000 strokes : 25.0 Tolerance	
cm3/1000 strokes : + 3.0 - Check tolerance	LOW IDLE
cm3/1000s. : +- 6.0 Spreed	Setting point w/out bumper spring
Tolerance - cm3/1000 strokes : 3.5 - Check tolerance -	Rated speed rpm : 400 rack travel mm : 4.40
cm3/1000s. : 5.5	Tolerance mm : +- 0.10
(B) SETTING OF INJECTION PUMP	Testing:
WITH GOVERNOR	Rated speed rpm : 400 rack travel mm : 4.90 Tolerance mm : +- 0.10
GUIDE SLEEVE POSITION	TORQUE CONTROL
control lever - position degree : - 3	Rated speed rpm : 925 - rack travel mm : 14.10 - Tolerance mm : +- 0.05
governor spring pre-tension click setting x : 5.00	Rated speed rpm : 1125 - rack travel mm : 13.60 - Tolerance mm : +- 0.05
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 700 - rack travel mm : 14.15 - Tolerance mm : +- 0.10
Rated speed rpm : 925	- Rated speed rpm : 1025
· · · · · · · · · · · · · · · · · · ·	

rack travel mm Tolerance mm		+	Ananaid procesure	
locerance mm	: +- 0.10	†	Aneroid pressure	
			hPa : Rated speed rpm :	- 500
ANEROID/ALTITUDE		I	Del. quantity	טטכ
COMPENSATOR TEST		1	cm3/1000 strokes :	91.0
		1-	Tolerance	
		+	cm3/1000 strokes :	← 1.0
SETTING		†	Check tolerance	+- 4.0
Rated speed rpm	: 500	Ī	cm3/1000s. :	+- 4.0
Pressure hPa	: 1500	1		
rack travel mm	: 14.10	+		
Tolerance mm	: ← 0.15	+	STARTING FUEL DELIVE	RY
Rated speed rpm	: 500	İ	Rated speed rpm :	100
Pressure hPa	: -	I	rack travel mm :	9.45
rack travel mm	: 9.45	1	Tolerance mm :	+- 0.45
Tolerance mm	: ← 0.15	+	Del. quantity	J. 13
		+	cm3/1000 strokes :	112.0
MEASUREMENT		+	Tolerance	. =
	500	+	cm3/1000 strokes :	← 10.0
Rated speed rpm	: 500	+	Check tolerance	. 4/ 0
Propound has	. 150	†	cm3/1000s. :	+- 14.0
Pressure hPa rack travel mm	: 150 : 9.75	†		
Tolerance mm	: +- 0.05	I		
TOTEL OF ITE	, , , , , , , , , , , , , , , , , , , ,	I		
Pressure hPa	: 800	1	LOW IDLE	
rack travel mm	: 13.05	+		
Tolerance mm	: ← 0.15	+	Rated speed rpm :	400
		Ť	Dool Americal Conservation	4 00
			Rack travel in mm : Tolerance mm :	
FUEL DELIVERY CHA	RACTERISTICS	I	Del. quantity	0.10
TOLE DELIVERY CITY	III/ACTENTOTECS	1	cm3/1000 strokes :	25.0
			Tolerance	
Aneroid pressure		+	cm3/1000 strokes :	+- 3.0
hPa	: 1500	+	Check tolerance	
Rated speed rpm	: 1125	+	***************************************	+- 6.0
Del. quantity		-	Spreed	
cm3/1000 strokes	: 161.0	†	Tolerance cm3/1000 strokes :	3.5
Tolerance cm3/1000 strokes	· +- 3 N	Ī	Check tolerance	3.3
Check tolerance	. , J.u	I	cm3/1000s. :	5.5
cm3/1000s.	: +- 6.0	1		
		+		
		+		
Aneroid pressure	. 4500	†		
hPa Rated speed rpm	: 1500 : 700	†	End of test specific	ation chact
rack travel mm	: 700 : 14.15	I	End of test specific	ation Sheet
Tolerance mm	: + 0.10	I		
Del. quantity	0.10	1		
cm3/1000 strokes	: 187.0	+		
Tolerance		+		
cm3/1000 strokes	: +- 3.0	+		
Check tolerance		+		
cm3/1000s.	: ← 6.0	†		
		+		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.07.98 Test oil : ISO 4113

Combination No. : 0 402 646 626

Injection pump

Pump designation : PE6P120A320RS7299 EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1076K

Governer no. : 0 421 815 357

Cust. part No. : 1280160/8

Customer—spec. information Customer : DAF

Motor : WS 268 M Power KW : 268.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

17 55

Rack travel in mm : 13.55 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 250.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance		T Dated aread area . 700
cm3/1000s.	: 4.0	+ Rated speed rpm : 390
Canad		+ guide sleeve - travel mm : 3.79
Spr ee d		+ travel mm : 3.79 + Tolerance mm : +- 0.25
Tolerance		T roterance mm : TT U.25
cm3/1000 strokes	: 5.0	Rated speed rpm : 1310
CHOT TOUG SCHOKES		+ guide sleeve
Check tolerance		+ guide steeve - + travel mm : 13.50
cm3/1000s.	: 9.0	Tolerance mm : +- 0.50
CINOT TOODS.	. 9.0	T roterance min . 4- 0.30
		<u> </u>
		GUIDE SLEEVE POSITION
Rated speed rpm	: 275	1 00175 055575 1 00111017
nated speed rpm	,	
Rack travel in mm	n: 4.80	control lever
Tolerance mm		position degree : - 1
Del. quantity		Rated speed rpm : 1130
cm3/1000 strokes	: 17.0	-
Tolerance	· · · · · · · · · · · · · · · · · · ·	Rack travel in mm : 12.60
cm3/1000 strokes	: +- 3.0	+ Tolerance mm : +- 1.30
Check tolerance		+
cm3/1000s.		+
Spreed	_	+ FULL LOAD DELIVERY AT FULL LOAD STO
Tolerance		+
cm3/1000 strokes	: 8.0	Rated speed rpm : 980
Check tolerance	- -	+ Aneroid pressure
cm3/1000s.	: 12.0	+ hPa : 1500
	· = · 2	Del. quantity
		+ cm3/1000 strokes : 250.0
(B) SETTING OF IN	NJECTION PUMP	+ Tolerance
WITH GOVERNOR		+ cm3/1000 strokes : +- 1.0
		+ Check tolerance
		- + cm3/1000s. : +- 4.0
		,
GUIDE SLEEVE TRAV	/EL	Spreed
		Spreed Tolerance
Rated speed rpm		Spreed Tolerance cm3/1000 strokes : 5.0
Rated speed rpm guide sleeve	: 1045	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm guide sleeve travel mm	: 1045 : 9.82	Spreed Tolerance cm3/1000 strokes : 5.0
Rated speed rpm guide sleeve	: 1045	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.82 : ← 0.20	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.82	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1045 : 9.82 : ← 0.20 : 275	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1045 : 9.82 : ← 0.20 : 275	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm cuide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15 : 689	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm cuide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 1045 : 9.82 : + 0.20 : 275 : 2.14 : + 0.15 : 689 : 6.43	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15 : 689	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.55
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15 : 689 : 6.43 : ← 0.25	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.55 Rated speed rpm : 1042
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Guide sleeve travel mm Tolerance mm Rated speed rpm	: 1045 : 9.82 : + 0.20 : 275 : 2.14 : + 0.15 : 689 : 6.43	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.55
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15 : 689 : 6.43 : ← 0.25 : 284	Spreed Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 9.0 CONTROL LEVER control lever position degree: 120.0 tolerance degree: + 4.0 RATED SPEED rack travel mm: 12.55 Rated speed rpm: 1042 Tolerance 1/min: + 5
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15 : 689 : 6.43 : ← 0.25 : 284 : 2.27	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15 : 689 : 6.43 : ← 0.25 : 284	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1160
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15 : 689 : 6.43 : ← 0.25 : 284 : 2.27 : ← 0.25	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15 : 689 : 6.43 : ← 0.25 : 284 : 2.27	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : + 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	: 1045 : 9.82 : + 0.20 : 275 : 2.14 : + 0.15 : 689 : 6.43 : + 0.25 : 284 : 2.27 : + 0.25 : 334	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : + 15 rack travel mm : 0.70
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.82 : ← 0.20 : 275 : 2.14 : ← 0.15 : 689 : 6.43 : ← 0.25 : 284 : 2.27 : ← 0.25	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : +- 15 rack travel mm : 15 rack travel mm : 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.82 : + 0.20 : 275 : 2.14 : + 0.15 : 689 : 6.43 : + 0.25 : 284 : 2.27 : + 0.25 : 334	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : +- 15 rack travel mm : 0.70

LOW IDLE

control lever

position degree : 74.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. : > 7.50

Testing:

Rated speed rpm : 275 rack travel mm : 4.80 Tolerance mm : +- 0.10

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 980 rack travel mm : 13.55 Tolerance mm : +- 0.05

Rated speed rpm : 750 rack travel mm : 13.05 Tolerance mm : + 0.05

Rated speed rpm : 600 rack travel mm : 12.10 Tolerance mm : + 0.10

Rated speed rpm : 500 rack travel mm : 11.70 Tolerance mm : +- 0.10

Rated speed rpm : 980 rack travel mm : 13.70 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 980
Pressure hPa : 1500
rack travel mm : 13.55
Tolerance mm : +- 0.05

Rated speed rpm : 980

Pressure hPa : rack travel mm : 8.50
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 980

Pressure hPa : 720 rack travel mm : 12.25 Tolerance mm : + 0.05

Pressure hPa : 360 rack travel mm : 9.80 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500 Rated speed rpm : 750

Del. quantity

cm3/1000 strokes : 263.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 5.0

8.0

Spreed Tolerance

cm3/1000 strokes :

Check tolerance

cm3/1000s. : 12.0

rack travel : 12.10
Tolerance mm : + 0.10

Aneroid pressure

hPa : -Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 154.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm Tolerance mm	:	+-	4.80 0.10
Del. quantity cm3/1000 strokes	:		17.0
Tolerance cm3/1000 strokes Check tolerance	:	+	3.0
cm3/1000s. Spreed	:	+-	6.0
Tolerance cm3/1000 strokes Check tolerance	:		8.0
cm3/1000S.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.07.98 Test oil : ISO 4113

Combination No. : 0 402 646 671

Injection pump

Pump designation : PE6P120A320RS7421 EP type number : 0 412 626 956

Governor

Governer design. : RQV275...1150PA1297K

Governer no. : 0 421 815 524

Cust. part No. : 1316184/5

Customer—spec. information Customer : DAF

Motor : PF 212 M Power KW : 212.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 15.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

.

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

650

6 1 to a 1 to a 2 7 7	† Detail mand and (50)
Rack travel in mm : 12.35 Tolerance mm : +- 0.05	+ Rated speed rpm : 450 + guide sleeve
	+ travel mm : 3.85
Del. quantity	+ Tolerance mm : +- 0.25
cm3/1000 strokes : 231.0	Rated speed rpm : 1480
Tolerance	guide sleeve
cm3/1000 strokes : +- 1.0	+ travel mm : 13.50
Check tolerance	+ Tolerance mm : +- 0.50
cm3/1000s. : +- 4.0	
	+ GUIDE SLEEVE POSITION
Spreed	<u>‡</u>
Tolerance	control lever
cm3/1000 strokes : 5.0	position degree : - 1
Check tolerance	+ Rated speed rpm : 1329
cm3/1000s. : 9.0	Rack travel in mm : 11.10
	Tolerance mm : +- 2.70
	<u> </u>
Rated speed rpm : 275	FULL LOAD DELIVERY AT FULL LOAD STOP
	+
Rack travel in mm: 4.90	Rated speed rpm : 850
Tolerance mm : +- 0.10	+ Aneroid pressure + hPa : 1500
Del. quantity cm3/1000 strokes : 16.0	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 231.0
cm3/1000 strokes : +- 2.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : +- 1.0
cm $3/1000$ S. : \leftarrow 6.0	+ Check tolerance
Spreed	- cm3/1000s. : +- 4.0
Tolerance	+ Spreed
cm3/1000 strokes : 8.0	Tolerance
Check tolerance	+ cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	Check tolerance
(113) 10003.	+ cm3/1000s. : 9.0
	+
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	†
ATTI OCACIMACIO	CONTROL LEVER
	+
GUIDE SLEEVE TRAVEL	+ control lever
Data dama dama dan	position degree : 118.0
Rated speed rpm : 1206	tolerance degree : +- 4.0
guide sleeve travel mm : 10.12	RATED SPEED
Tolerance mm : +- 0.15	+ rack travel mm : 11.10 + Rated speed rpm : 1195
Rated speed rpm : 275	Tolerance 1/min : + 5
Rated speed rpm : 275 guide sleeve	+ Check
travel mm : 1.71	speed 1/min : +- 10
Tolerance mm : +- 0.20	+
	rack travel mm : 4.00
Rated speed rpm : 813	Rated speed rpm : 1300
guide sleeve	+ Tolerance 1/min : +- 15
travel mm : 6.81	+ Check
Tolerance mm : +- 0.25	+ speed 1/min : +- 20

rack travel mm	: 0.70
Tolerance mm	: ← 0.70
Rated speed rpm	: 1400
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : +- 4.0
Setting point w/c	out bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.00
Testing:	
Rated speed rpm	: 275
rack travel mm	: 4.90
Tolerance mm	: +- 0.10
Rated speed rpm	: 350
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 850 : 12.35 : + 0.05
Rated speed rpm	: 1130
rack travel mm	: 12.10
Tolerance mm	: +- 0.10
Rated speed rpm	: 1000
rack travel mm	: 12.15
Tolerance mm	: ← 0.10
Rated speed rpm	: 800
rack travel mm	: 12.25
Tolerance mm	: + 0.10
Rated speed rpm	: 650
rack travel mm	: 11.50
Tolerance mm	: + 0.10
Rated speed rpm	: 500
rack travel mm	: 10.85
Tolerance mm	: + 0.10
Rated speed rpm	: 1150
rack travel mm	: 12.10
Tolerance mm	: + 0.10

ANEROID/ALTI	TUDE
COMPENSATOR :	TEST

SETTING

Rated speed rpm	:	875
Pressure hPa	:	1500
rack travel mm	:	12.35
Tolerance mm	: -	⊢ 0.10

Rated speed rpm	:	875
Pressure hPa	:	_
rack travel mm	:	8.00
Tolerance mm	: +	- 0.10

MEASUREMENT

Rated speed rpm	:	875
Pressure hPa	:	420
rack travel mm	:	11.35
Tolerance mm	: +	- 0.05

Pressure hPa : 150 rack travel mm : 9.20 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm Del. quantity		500 130
cm3/1000 strokes	: 7	207.0
Tolerance cm3/1000 strokes Check tolerance	: +-	2.0
cm3/1000s.	: +-	5.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0
		
rack travel mm Tolerance mm	: +-	12.15 0.10
Aneroid pressure		

Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 138.0

hPa

Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0

LOW IDLE

Rated speed rpm : 275 Rack travel in mm : 4.90 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 16.0 Tolerance 2.0 cm3/1000 strokes : +-Check tolerance 6.0 cm3/1000S. Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.07.98 Test oil : ISO 4113

Combination No. : 0 402 676 804

Injection pump

Pump designation : PE6P120A320RS7142 EP type number : 0 412 626 820

Governor

Governer design. : RSUV325...1150POA358

Governer no. : 0 421 829 105

Cust. part No. :

Customer-spec. information

Customer : MWM

Motor : D-TBD 234 V6

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-6A- 3- 2A- 5

Phasing : 0-90-120-210-240

: -330

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 14.95 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 261.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0	+ Check tolerance + cm3/1000s. : +- 4.0 + Spreed
Spreed	+ Tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000S. : 9.0	
	+ CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 60.0 tolerance degree : +- 4.0
Rack travel in mm: 6.60	+ control lever
Tolerance mm : +- 0.10 Del. quantity	position degree : 115.0
cm3/1000 strokes : 35.0 Tolerance	tolerance degree : +- 4.0
cm3/1000 strokes : +- 5.0	+ RATED SPEED
Check tolerance	rack travel mm : 13.90
cm3/1000s. : +- 8.0 Spreed	+ Rated speed rpm : 1195 + Tolerance 1/min : +- 5
Tolerance	+
cm3/1000 strokes : 6.0 Check tolerance	+ rack travel mm : 4.00 + Rated speed rpm : 1295
cm3/1000s. : 10.0	Tolerance 1/min : +- 15
(B) SETTING OF INJECTION FUMP WITH GOVERNOR	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1440
GUIDE SLEEVE POSITION	LOU TOLE
GUIDE SLEEVE POSITION	LOW IDLE
control lever	1
control lever position degree : - 3	control lever
control lever position degree : - 3 Rated speed rpm : 800	1
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 78.0 tolerance degree : + 4.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 78.0 tolerance degree : + 4.0 control lever position degree : 23.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 78.0 tolerance degree : + 4.0 control lever
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 78.0 tolerance degree : + 4.0 control lever position degree : 23.0
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00	control lever position degree : 78.0 tolerance degree : + 4.0 control lever position degree : 23.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 78.0 tolerance degree : + 4.0 control lever position degree : 23.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 800	control lever position degree : 78.0 tolerance degree : + 4.0 control lever position degree : 23.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.10 Tolerance mm : + 0.10
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 800 Aneroid pressure	control lever position degree : 78.0 tolerance degree : + 4.0 control lever position degree : 23.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 800 Aneroid pressure hPa : 900 Del. quantity	control lever position degree : 78.0 tolerance degree : + 4.0 control lever position degree : 23.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 800 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 261.0	control lever position degree : 78.0 tolerance degree : + 4.0 control lever position degree : 23.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 800 Aneroid pressure hPa : 900 Del. quantity	control lever position degree : 78.0 tolerance degree : + 4.0 control lever position degree : 23.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 6.10 Tolerance mm : + 0.10 Testing: Rated speed rpm : 325

: 470 : +- 30
: 800 : 14.95 : +- 0.05
: 1150 : 14.95 : +- 0.10
: 1100 : 5.00 : +- 0.10
: 1100 : 7.00 : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	500
Pressure hPa	:	_
rack travel mm	:	9.50
Tolerance mm	: +	- 0.10

MEASUREMENT

Pressure hPa	:	725
rack travel mm	:	14.75
Tolerance mm	: +	- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	900
Rated speed rpm	:	1150
Del. quantity		
cm3/1000 strokes	:	260.0
Tolerance		
cm3/1000 strokes	: -	⊢ 3.0

Check tolerance cm3/1000s. 6.0

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid	pressure

nra	•	_
Rated speed rpm	:	1100
rack travel mm	:	5.00
Tolerance mm	: -	+- 0.10

Delivery for shutoff assemblies (refer to cam sequence).

Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa	:	_
Rated speed rpm	:	1100
Del. quantity		

cm3/1000 strokes : 45.0Tolerance

cm3/1000 strokes : +- 25.0

Check tolerance cm3/1000s. : +- 25.0

Aneroid pressure

hPa	:	_
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	130.

0 Tolerance

cm3/1000 strokes : +-

Check tolerance

cm3/1000s. 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 220.0

Tolerance

cm3/1000 strokes : + 20.0

LOW IDLE

Delivery for standard plunger/barrel assemblies. Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm : 325

Rack travel in mm : 6.60 Tolerance mm : \leftarrow 0.10

Del. quantity cm3/1000 strokes : 35.0

Tolerance cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.07.98 : ISO 4113 Test oil

Combination No. : 0 402 746 640

Injection pump

Pump designation : PES6P120A320RS7359 EP type number : 0 412 726 925

Governor

Governer design. : RQV300...1050PA1191

Governer no. : 0 421 814 114

Cust. part No. : CCEP 5147C 66-223

Customer-spec. information

Customer : RENAULT V.I.

: MIDR 06.20.45 C4 Motor

Power KW : 188.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : Tolerance bar : \leftarrow 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 4.70 Tolerance mm : +- 0.50

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

: **←** 0.75 tolerance °NW

Start of delivery mark

"NW after s.o.d. : -0.95 : +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 12.70

Tolerance mm : + 0.05

BASIC SETTING

Rated speed rpm : 700 +	guide sleeve
Del. quantity = 197.0 +	travel mm : 2.40 Tolerance mm : + 0.25
Tolerance	Rated speed rpm : 415 guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 3.28 Tolerance mm : +- 0.25
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 460
Spreed	guide sleeve travel mm : 3.86 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 1460 guide sleeve
Check tolerance cm3/1000s. : 9.0	travel mm : 11.50 Tolerance mm : +- 0.50
	GUIDE SLEEVE POSITION
Rated speed rpm : 300	
Rack travel in mm: -7.20 Tolerance mm: + 0.10 Del. quantity	control lever position degree : - 1 Rated speed rpm : 1230
cm3/1000 strokes : 31.0 + Tolerance	Rack travel in mm : 11.70
cm3/1000 strokes : +- 2.0 Check tolerance	Tolerance mm : +- 2.00
cm3/1000s. : +- 5.0 +- 5.0 +- 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance + cm3/1000 strokes : 8.0 + Check tolerance +	Rated speed rpm : 700 Aneroid pressure
cm3/1000s. : 12.0	hPa : 1000 Del. quantity
(B) SETTING OF INJECTION PUMP	cm3/1000 strokes : 197.0 Tolerance
WITH GOVERNOR	cm3/1000 strokes : +- 1.0
	Check tolerance
GUIDE SLEEVE TRAVEL	cm3/1000s. : +- 4.0 Spreed
Rated speed rpm : 1140 +	cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
+	cm3/1000s. : + 4.0 Spreed Tolerance
Rated speed rpm : 1140 guide sleeve travel mm : 8.49 Tolerance mm : +- 0.25 Rated speed rpm : 300	<pre>cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0</pre>
Rated speed rpm : 1140 guide sleeve travel mm : 8.49 Tolerance mm : +- 0.25	<pre>cm3/1000S. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance</pre>
Rated speed rpm : 1140 guide sleeve travel mm : 8.49 Tolerance mm : +- 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.33 Tolerance mm : +- 0.25 Rated speed rpm : 754	cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER
Rated speed rpm : 1140 guide sleeve travel mm : 8.49 Tolerance mm : +- 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.33 Tolerance mm : +- 0.25 Rated speed rpm : 754 guide sleeve travel mm : 6.10	cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 302.0 tolerance degree : + 4.0 RATED SPEED
Rated speed rpm : 1140 guide sleeve travel mm : 8.49 Tolerance mm : +- 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.33 Tolerance mm : +- 0.25 Rated speed rpm : 754 guide sleeve	cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 302.0 tolerance degree : + 4.0

rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 1295 : +- 15 : -12.20
LOW IDLE	
control lever position degree tolerance degree	: 266.0 : ← 4.0
Testing:	700
Rated speed rpm rack travel mm Tolerance mm	: 300 : −7.20 : ← 0.10
Rated speed rpm	: 200
CRT mm max.	: < -4.80
Rated speed rpm	: 370
TORQUE CONTROL Rated speed rpm	: 700
Rated speed rpm Tolerance mm	: 1050 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1000
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : -1.20 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm	: 140 : -0.80 : +- 0.15

Pressure hPa rack travel mm Tolerance mm	: 200 : -0.35 : +- 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min Check	: > 80
speed 1/min	: < 240
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	: 1000 : 1050
Del. quantity cm3/1000 strokes	: 199.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s.	: 6.0
Aneroid pressure	
hPa Rated speed rpm Del. quantity	: – : 500
cm3/1000 strokes Tolerance	: 162.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
Del. quantity cm3/1000 strokes	: 150.0
Tolerance cm3/1000 strokes Check tolerance	: +- 15.0
cm3/1000s.	: +- 19.0
LOW IDLE	
Rated speed rpm	: 300

Rack travel in mm	:		-7.20
Tolerance mm	:	+-	0.10
Del. quantity			
cm3/1000 strokes	:		31.0
Tolerance			
cm3/1000 strokes	:	+	2.0
Check tolerance			
cm3/1000S.	:	+-	5.0
Spreed			
Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 27.07.98

Test oil

: ISO 4113

Combination No. : 0 402 746 655

Injection pump

Pump designation : PES6P120A320RS7343

EP type number

: 0 412 726 915

Governor

Governer design. : RQV300...13792A1160

: -1K

Governer no.

: 0 421 815 559

Cust. part No. : 5168 66-250

Customer-spec. information

Customer

: RENAULT V.I.

Motor

: MIDR 062356 B41

Power KW

: 288.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve

: 2 417 413 071

Inlet press. bar :

2.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

Test lines

: 1 680 750 089

Outside diameter :

8.0

x inside diameter : 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm 4.50

: **←** 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 11.00

Tolerance mm : \leftarrow 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : + - 0.50

Check

tolerance °NW : **←** 0.75

Start of delivery mark

 $^{\circ}$ NW after s.o.d. : -0.40

: +- 0.50 Tolerance

Check

: **←** 0.75 tolerance °NW

: 1 Barrel no.

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

11.00 travel

Difference ° CS : 2.25

CRT ZERO POSITION

		+	Tolerance mm	: +- 0.20
Rack travel in mm Tolerance mm		‡	Rated speed rpm guide sleeve	
		†	travel mm Tolerance mm	: 5.96 : +- 0.25
BASIC SETTING			roterance mm	: + 0.25
Rated speed rpm	: 1000	+	Rated speed rpm guide sleeve	
			travel mm	: 3.66
Del. quantity cm3/1000 strokes	: 356.0	† †	Tolerance mm	: +- 0.25
Tolerance			Rated speed rpm guide sleeve	: 1440
cm3/1000 strokes	: +- 1.0	1	travel mm Tolerance mm	
Check tolerance cm3/1000s.	: +- 4.0			
Spreed		 ‡	GUIDE SLEEVE POSI	TION
		+		
Tolerance cm3/1000 strokes	. 50	İ	control lever	1
CIIIS/ TODO STROKES	. 5.0	I	position degree Rated speed rpm	1275
Check tolerance			nated speed rpm	. 12.3
cm3/1000s.	: 9.0	+	Rack travel in mm	
			Tolerance mm	: +- 1.30
~	700	+	SIN LOAD DELTUED	AT FULL LOAD OTOD
Rated speed rpm	: 300	1	FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rack travel in mm	: -7.90	Ţ	Rated speed rpm	: 1000
Tolerance mm		+	Aneroid pressure	
Del. quantity	45.5	+	hPa	: 1200
cm3/1000 strokes	: 40.0	†	Del. quantity	. 754 0
Tolerance cm3/1000 strokes	. +- 15	1	cm3/1000 strokes Tolerance	: 336.0
Check tolerance		Ţ	cm3/1000 strokes	: +- 1.0
cm3/1000s.	: +- 5.0	<u> </u>	Check tolerance	
Spreed		+	cm3/1000s.	: +- 4.0
Tolerance	2.0	+	Spreed	
cm3/1000 strokes Check tolerance	: 8.0	†	Tolerance cm3/1000 strokes	. 5 0
cm3/1000s.	: 12.0	I	Check tolerance	. 5.0
CIIIS7 10003.	. 12.0	1	cm3/1000s.	: 9.0
(B) SETTING OF INJ	ECTION PUMP	‡		
WITH GOVERNOR	· · · - · · ·	+		
		†	CONTROL LEVER	
GUIDE SLEEVE TRAVE	1	_	control lever	
SOLVE SEEERE HAVE	-	1	position degree	: 296.0
Rated speed rpm guide sleeve	: 1113	‡	tolerance degree	
travel mm	: 8.82	+	RATED SPEED	
Tolerance mm	: +- 0.15	+	rack travel mm	
Dakad	. 700	†	Rated speed rpm	
guide sleeve	: 300	‡	Tolerance 1/min	
travel mm	: 1.29	+	rack travel mm	: -9.00

Rated speed rpm Tolerance 1/min	: 1225 : + 15	‡	Tolerance mm
rack travel mm	: -12.50	‡	MEASUREMENT
Tolerance mm Rated speed rpm	: +- 0.50	<u> </u>	Rated speed rpm
Naced Speed (pii)	. 1330	‡	Pressure hPa rack travel mm Tolerance mm
LOW IDLE		++	Pressure hPa rack travel mm Tolerance mm
control lever position degree tolerance degree	: 252.0 : +- 4.0	<u> </u>	Start interlock
Setting point w/o	ut bumper spring	+	Rated speed rpm Rated speed rpm
Rated speed rpm	: 200	Ŧ	, ,
CRT mm min.	: > -6.90	‡	Check speed 1/min Check
Testing:		1	speed 1/min
Rated speed rpm rack travel mm Tolerance mm	: -7.90	++	FUEL DELIVERY CHA
Rated speed rpm	: 390	‡	Aneroid pressure
TORQUE CONTROL Rated speed rpm	: 1000	}	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance
Rated speed rpm rack travel mm Tolerance mm	: -0.40	+	cm3/1000 strokes Check tolerance cm3/1000s.
Rated speed rpm rack travel mm Tolerance mm	: 800 : 0.10 : +- 0.15	+	rack travel mm Tolerance mm
Rated speed rpm rack travel mm Tolerance mm	: 350 : −1.55 : + 0.30	+	Aneroid pressure hPa Rated speed rpm
ANEROID/ALTITUDE COMPENSATOR TEST		—	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes
SETTING		1	Check tolerance cm3/1000s.
Rated speed rpm Pressure hPa	: 1000 : 1200	+	
Rated speed rpm Pressure hPa	: 500	†	STARTING FUEL DEL
rack travel mm	: -4.10	+	rack travel mm

MEASUREMENT			
Rated speed rpm	: 1000		
Pressure hPa rack travel mm Tolerance mm	: 320 : -3.00 : +- 0.15		
Pressure hPa rack travel mm Tolerance mm	: 520 : −1.90 : ← 0.05		
Start interlock			
Rated speed rpm Rated speed rpm	: > 100 : < 240		
	: > 80		
Check speed 1/min	: < 250		
FUEL DELIVERY CHAR	RACTERISTICS		
Aneroid pressure hPa Rated speed rpm	: 1200 : 600		
Del. quantity cm3/1000 strokes Tolerance	: 390.0		
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : +- 6.0		
rack travel mm Tolerance mm	: 0.10 : + 0.15		
Aneroid pressure			
Rated speed rpm Del. quantity cm3/1000 strokes	: 500 : 241.0		
Tolerance cm3/1000 strokes	: - 1.0		
Check tolerance cm3/1000s.	: +- 4.0		
STARTING FUEL DELI	VERY		
Rated speed rpm rack travel mm	: 100 : 20.25		

: + 0.30

Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 185.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 300 -7.90 Rack travel in mm: 0.10 Tolerance mm Del. quantity 40.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-1.5 Check tolerance cm3/1000S. 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.10.96 : ISO 4113

Combination No. : 0 402 036 761

Injection pump

Pump designation : PES6P110A120RS3353

EP type number : 0 412 016 752

Governor

Governer design. : RQV450...1100PA1233K

Governer no.

: 0 421 815 474

Cust. part No. : 3926886

Customer-spec. information : CDC Customer : 6CTA Motor : 187.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter : 3.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Start of delivery blocking

°NW after s.o.d. : 8.50 : +- 0.10 Tolerance

Check

tolerance °NW : +- 0.23

: 1 Barrel no.

Beginning of delivery differende

and maximum rack

travel 13.00 Difference ° CS :

BASIC SETTING

Rated speed rpm : 1000	guide sleeve travel mm : 4.75 Tolerance mm : +- 0.25
Rack travel in mm : 13.15 Tolerance mm : + 0.05	Rated speed rpm : 1570 guide sleeve travel mm : 13.50
Del. quantity cm3/1000 strokes : 200.0	Tolerance mm : + 0.50
Tolerance cm3/1000 strokes : +- 1.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1000 Aneroid pressure hPa : 1200
Spreed	Del. quantity cm3/1000 strokes : 200.0 Tolerance
Tolerance cm3/1000 strokes : 8.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Check tolerance cm3/1000s. : 12.0	Spreed Tolerance cm3/1000 strokes : 8.0
Rated speed rpm : 500	Check tolerance cm3/1000s. : 12.0
+	
Rack travel in mm: 5.80 + Tolerance mm: + 0.20 + Del. quantity	CONTROL LEVER
cm3/1000 strokes : 21.5 + Tolerance +	control lever position degree : 115.0
cm3/1000 strokes : + 3.0 + Check tolerance cm3/1000s. : + 5.0 +	tolerance degree : +- 6.0 RATED SPEED
Spreed +	rack travel mm : 11.40 Rated speed rpm : 1155
cm3/1000 strokes : 4.0 + Check tolerance +	Tolerance 1/min : + 15
cm3/1000s. : 8.0	rack travel mm : 6.80 Rated speed rpm : 1230 Tolerance 1/min : +- 5
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 0.50 Tolerance mm : +- 0.50
GUIDE SLEEVE TRAVEL	Rated speed rpm : 1325
Rated speed rpm : 1214	
guide sleeve +	
travel mm : 8.09 Tolerance mm : + 0.15	LOW IDLE
Rated speed rpm : 500 guide sleeve	control lever position degree : 79.0
travel mm : 1.82 Tolerance mm : + 0.25	tolerance degree : + 6.0 Control lever difference
Rated speed rpm : 890	Grad : 36.0

tolerance degree	: + 6.0	Rated speed rpm : > 100 Rated speed rpm : < 380
Setting point w/o	ut bumper spring +	Check
Rated speed rpm	: 400	speed 1/min : > 80 Check
CRT mm min.	: > 7.50	speed 1/min : < 390
Testing:	+	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 500 : 5.80 : + 0.20	Aneroid pressure hPa : 1200
Rated speed rpm	: 500	Rated speed rpm : 750 Del. quantity
TORQUE CONTROL	1	cm3/1000 strokes : 189.5 Tolerance
Rated speed rpm rack travel mm	: 13.15 	cm3/1000 strokes : +- 3.0 Check tolerance
Tolerance mm	: +- 0.05	cm3/1000s. : +- 6.0 Spreed
Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.70 : ← 0.20	Tolerance cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm	: 1100	cm3/1000s. : 12.0
rack travel mm Tolerance mm	: 12.50 +	Aneroid pressure hPa : 1200
ANEROID/ALTITUDE COMPENSATOR TEST	+	Rated speed rpm : 1100 rack travel mm : 12.50 Tolerance mm : + 0.20 Del. quantity
SETTING	‡	cm3/1000 strokes : 178.5 Tolerance
Rated speed rpm Pressure hPa	: 1000 : 1200	cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm Pressure hPa	: 1000	Aneroid pressure
rack travel mm Tolerance mm		hPa : - Rated speed rpm : 1000
MEASUREMENT	+	Del. quantity cm3/1000 strokes : 121.0
Rated speed rpm	: 1000	Tolerance cm3/1000 strokes : +- 2.0
Pressure hPa rack travel mm Tolerance mm	: 890 : 12.60 : +- 0.30	Check tolerance cm3/1000s. : +- 4.0
	: 720	STARTING FUEL DELIVERY
rack travel mm Tolerance mm	: 11.15 : ← 0.20	Rated speed rpm : 100 rack travel mm : 21.00
Start interlock		Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 161.0

Tolerance cm3/1000 strokes : +- 20.0 Check tolerance

cm3/1000s. : +- 25.0

LOW IDLE

Rated speed rpm : 500 5.80 Rack travel in mm : : +- 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 21.5 Tolerance cm3/1000 strokes : +-3.0 Check tolerance 5.0 cm3/1000s. : +-Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16,10,96 Edition Test oil : ISO 4113

Combination No. : 0 402 746 641

Injection pump

Pump designation : PES6P120A320LS7337 EP type number : 0 412 726 910

Governor

Governer design. : RQV350...1100PA1200K

Governer no. : 0 421 815 453

Cust. part No. : 1823959091

Customer-spec. information

Customer : NAVISTAR Motor : DTA-531 Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8 : +- 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar

Test lines : 1 680 750 008

6.0 Outside diameter :

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : \leftarrow 1.0

Prestroke mm 2.90 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 15.00 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

: **←** 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 14.45 : +- 0.05Tolerance mm

Del. quantity cm3/1000 strokes : 213.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance	+
cm3/1000s. : +- 4.0	+ RATED SPEED
	+ rack travel mm : 12.90
Spreed	Rated speed rpm : 1155
·	+ Tolerance 1/min : +- 15
Tolerance	+
cm3/1000 strokes : 8.0	+ rack travel mm : 4.00
	Rated speed rpm : 1290
Check tolerance	+ Tolerance 1/min : +- 5
cm3/1000s. : 12.0	+
	+ rack travel inm : 0.50
	+ Tolerance mm : + 0.50
	+ Rated speed rpm : 1350
Rated speed rpm : 325	+
	+
Rack travel in mm : 6.90	+
Tolerance mm : +- 0.10	
Del. quantity	+ LOW IDLE
cm3/1000 strokes : 30.5	+
Tolerance	+
cm3/1000 strokes : + 3.0	+ control lever
Check tolerance	+ position degree : 78.0
$cm3/1000s.$: \leftarrow 5.0	+ tolerance degree : +- 6.0
Spreed	+
Tolerance	+ Setting point w/out bumper spring
cm3/1000 strokes : 5.0	+
Check tolerance	+ Rated speed rpm : 275
cm3/1000s. : 9.0	†
	+ CRT mm min. : > 8.00
	<u></u>
(m) amount of this part of the	T
(B) SETTING OF INJECTION PUMP	Testing:
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+
	Rated speed rpm : 325
	Rated speed rpm : 325 rack travel mm : 6.90
WITH GOVERNOR	Rated speed rpm : 325
	Rated speed rpm : 325 + rack travel mm : 6.90 + Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 325 rack travel mm : 6.90
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000	Rated speed rpm : 325 + rack travel mm : 6.90 + Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 0.10
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 14.00
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 1000
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10 Rated speed rpm : 1000 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10 Rated speed rpm : 800 rack travel mm : 13.50
WITH GOVERNOR FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10 Rated speed rpm : 1000 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10 Rated speed rpm : 800 rack travel mm : 13.50
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10 Rated speed rpm : 800 rack travel mm : 13.50
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER	Rated speed rpm : 325 rack travel mm : 6.90 Tolerance mm : + 0.10 Rated speed rpm : 425 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 14.45 Tolerance mm : + 0.05 Rated speed rpm : 650 rack travel mm : 12.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 14.00 Tolerance mm : + 0.10 Rated speed rpm : 800 rack travel mm : 13.50

ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1000 : 1200 : 14.45 : ← 0.05	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1000 : - : 11.30 : + 0.20	
MEASUREMENT		
Rated speed rpm	: 1000	
Pressure hPa rack travel mm Tolerance mm	: 755 : 13.40 : + 0.20	
Pressure hPa rack travel mm Tolerance mm	: 280 : 11.50 : + 0.05	
Start interlock		
Rated speed rpm Rated speed rpm	: > 100 : < 280	
Check speed 1/min Check	: > 80	
speed 1/min	: < 290	
FUEL DELIVERY CHARACTERISTICS		
rack travel mm Tolerance mm	: 14.00 : + 0.10	
Aneroid pressure hPa Rated speed rpm	: 1200 : 800	
Del. quantity cm3/1000 strokes	: 197.5	
Tolerance cm3/1000 strokes Check tolerance	: + 3.0	
cm3/1000s. Spreed	: +- 6.0	

Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: 8.0 : 12.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 325
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 6.90 : + 0.10 : 30.5 : + 3.0
Check tolerance	: +- 5.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: ÷- 5.0 : 5.0 : 9.0
End of test speci	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 21.09.95 Test oil : 150 4113

Combination No. : 0 403 466 162

Injection pump

Pump designation : PES6MW100/120RS1240

EP type number : 0 413 406 239

Governor

Governer design. : RSV500...1100MW2A380

Governer no. : 0 420 085 263

Cust. part No. : 3930454

Customer—spec. information Customer : CDC : 6 CTA Motor Power KW : 160.3

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50

Tolerance

: +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel

: 15.00

Difference ° CS : 1.50

	+
BASIC SETTING	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 1100	Rated speed rpm : 1100 Aneroid pressure
Rack travel in mm : 11.95 Tolerance mm : + 0.05	+ hPa : 1200 + Del. quantity + cm3/1000 strokes : 140.5
Del. quantity cm3/1000 strokes : 140.5	+ Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance
Tolerance cm3/1000 strokes : +- 1.0	+ cm3/1000S. : +- 4.0 + Spreed + Tolerance
Check tolerance cm3/1000s. : + 4.0	- cm3/1000 strokes : 4.0 - Check tolerance - cm3/1000S. : 7.5
Spreed	+
Tolerance cm3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance cm3/1000s. : 7.5	control leverposition degree : 94.0tolerance degree : + 4.0
Rated speed rpm : 550	RATED SPEED - rack travel mm : 10.90 - Rated speed rpm : 1190
Rack travel in mm : 5.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 21.5	Tolerance 1/min : + 5 rack travel mm : 5.80 Rated speed rpm : 1235 Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5	rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1400
Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance	
cm3/1000s. : 5.5	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 80.5 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Control lever difference Grad: 13.5 tolerance degree: +- 4.0
control lever position degree : - 3	Setting point w/out bumper spring
governor spring pre-tension click setting x : 3.00	+ Rated speed rpm : 550 + rack travel mm : 4.70 + Tolerance mm : + 0.10

Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: 550 Rated speed rpm : 5.20 rack travel mm : +- 0.10Tolerance mm TORQUE CONTROL 1100 Rated speed rpm : rack travel mm : 11.95

: +- 0.05

500

ANEROID/ALTITUDE COMPENSATOR TEST

Tolerance mm

SETTING

Rated speed rpm Pressure hPa 1200 500 Rated speed rpm Pressure hPa rack travel mm 10.80 Tolerance mm : +- 0.20

MEASUREMENT

500 Rated speed rpm

Pressure hPa : 755 11.60 rack travel mm : +- 0.20 Tolerance mm

Pressure hPa 625 11.00 rack travel mm : + - 0.05Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 123.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +-3.0 STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm : 20.50 Tolerance mm : +- 1.00

Del. quantity

cm3/1000 strokes : 145.5

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 13.0

LOW IDLE

Rated speed rpm : 550

Rack travel in mm : 5.20 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 21.5 Tolerance

cm3/1000 strokes : +- 2.0 Check tolerance

cm3/1000s. 4.5 Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 04.08.95 : ISO 4113

Combination No. : 0 403 466 163

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV450...1000MW2A381

Governer no. : 0 420 085 264

Cust. part No. : 3929166

Customer-spec. information

Customer : CDC Motor

: 6 CT

Power KW

: 153.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

2.0

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter :

x length mm :

2.0 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.80 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance °NW

: **←** 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50

Tolerance : \leftarrow 0.50

Check

tolerance °NW

: **←** 0.75

Barrel no.

: 1

Beginning of delivery differende

and maximum rack

travel

15.00

Difference ° CS : 2.00

†	
BASIC SETTING	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 1000	Rated speed rpm : 1000 Aneroid pressure
Rack travel in mm : 12.25 Tolerance mm : + 0.05	hPa : 1200 Del. quantity cm3/1000 strokes : 148.0 Tolerance
Del. quantity cm3/1000 strokes : 148.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Tolerance cm3/1000 strokes : + 1.0	Spreed Tolerance cm3/1000 strokes : 4.0
Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : 7.5
Spreed	
Tolerance cm3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance cm3/1000s. : 7.5	position degree : 94.0 tolerance degree : + 4.0
Rated speed rpm : 450	RATED SPEED rack travel mm : 11.20 Rated speed rpm : 1045
Rack travel in mm: 5.50 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 16.5 Tolerance	Tolerance 1/min : + 5 rack travel mm : 5.40 Rated speed rpm : 1120 Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance	rack travel mm : 1.00 Rated speed rpm : 1200
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 82.0 tolerance degree : +- 4.0
	Control lever difference Grad : 12.0
GUIDE SLEEVE POSITION	tolerance degree : +- 4.0
control lever position degree : -3	Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10
governor spring pre-tension click setting x : 3.75	Rated speed rpm : 100

CRT mm min.	: > 19.00	+ T	preed olerance m3/1000 str heck tolera
Rated speed rpm rack travel mm Tolerance mm	: 450 : 5.50 : + 0.10	+ A	m3/1000s. —— neroid pres Pa
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 12.25 : +- 0.05 : 750 : 12.60	+ D C T C C	ated speed el. quantit m3/1000 str olerance m3/1000 str heck tolera m3/1000s.
ANEROID/ALTITUDE COMPENSATOR TEST		+ R	TARTING FUE ated speed ack travel
SETTING Rated speed rpm Pressure hPa	: 500 : 1200	+ Di + Ci + Ti + Ci	olerance mm el. quantit m3/1000 str olerance m3/1000 str heck tolera
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: -	1	m3/1000s.
MEASUREMENT		} L(OW IDLE
Rated speed rpm	: 500	+ R	ated speed
Pressure hPa rack travel mm Tolerance mm	: 850 : 12.10 : +- 0.20	+ To	ack travel olerance mm el. quantit m3/1000 str
Pressure hPa rack travel mm Tolerance mm	: 590 : 10.90 : +- 0.05	+ To + CI + CI + Cr + Sp	olerance m3/1000 str heck tolera m3/1000s. oreed olerance
FUEL DELIVERY CHA	RACTERISTICS	+ cr + cr	m3/1000 str neck tolera n3/1000s.
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes		+ -	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		+ Er	nd of test :

Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 9.0
Aneroid pressure	· -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	: 117.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm Tolerance mm	: 20.50 : +- 1.00
Del. quantity cm3/1000 strokes	
Tolerance	
cm3/1000 strokes Check tolerance	: +- 10.0
cm3/1000s.	: +- 13.0
LOW IDLE	
Rated speed rpm	: 450
Rack travel in mm Tolerance mm	: 5.50 : + 0.10
Tolerance mm Del. quantity cm3/1000 strokes	
Tolerance mm Del. quantity	: +- 0.10
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: + 0.10 : 16.5 : + 2.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed	: +- 0.10 : 16.5
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: + 0.10 : 16.5 : + 2.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance	: + 0.10 : 16.5 : + 2.0 : + 4.5
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +- 0.10 : 16.5 : +- 2.0 : +- 4.5 : 3.5
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +- 0.10 : 16.5 : +- 2.0 : +- 4.5 : 3.5
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 0.10 : 16.5 : + 2.0 : + 4.5 : 3.5 : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 15.10.96 : ISO 4113

Combination No. : 0 403 466 176

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV500...1100MW2A402

Governer no. : 0 420 085 292

Cust. part No. : 3931934

Customer-spec. information

Customer : CDC Motor

: 6 CT

Power KW

: 127.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

B19

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : +- 1.0

Prestroke mm : 2.80 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

Start of delivery blocking

*NW after s.o.d. : 8.00

Tolerance

: +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel

15.00

Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm Tolerance mm	: 10.25 : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100
Del. quantity cm3/1000 strokes	: 123.0	Aneroid pressure hPa : - Del. quantity
Tolerance cm3/1000 strokes	: + 1.0	cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s.	: +- 4.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Spreed		Tolerance cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes	: 4.0	Check tolerance cm3/1000s. : 7.5
Check tolerance		
cm3/1000s.	· 7.5	CONTROL LEVER
Rated speed rpm	: 500	<pre>control lever position degree : 108.0 tolerance degree : +- 4.0</pre>
Rack travel in mm Tolerance mm	: 5.50 : + 0.10	RATED SPEED
Del. quantity	+	rack travel mm : 9.25
cm3/1000 strokes Tolerance	: 29.0	Rated speed rpm : 1170 Tolerance 1/min : +- 5
cm3/1000 strokes	: +- 2.0 +	Toterance 17mm . 1- 3
Check tolerance cm3/1000s.	: +- 4.5	rack travel mm : 5.80 Rated speed rpm : 1230
Spreed	· - 4.3	Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes	: 3.5	rack travel mm : 1.00
Check tolerance	+	Tolerance mm : +- 0.70
cm3/1000s.	: 5.5	Rated speed rpm : 1350
(B) SETTING OF INJUSTITH GOVERNOR	ECTION PUMP	rack travel mm : 5.80 Rated speed rpm : 1230 Tolerance 1/min : +- 15
	+	
GUIDE SLEEVE POSIT	ION	
	1	LOW IDLE
control lever	Ī	
position degree :	: -3 : 800	control lever
Rated speed rpm :	: 800 +	position degree : 89.0 tolerance degree : + 4.0
Rack travel in mm : Tolerance mm :		Control lever difference
। जर्मा वर्गाप्य गामा	+ 0.20	Grad : 19.0
governor spring	+	tolerance degree : +- 6.0
<pre>pre-tension click setting x :</pre>	: 5.00	Setting point w/out bumper spring
	+	

Rated speed rpm rack travel mm Tolerance mm	: 500 : 5.00 : +- 0.10	
Rated speed rpm	: 100	
CRT mm min.	: > 19.00	
Testing:		
Rated speed rpm rack travel mm Tolerance mm	: 500 : 5.50 : + 0.10	
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 10.25 : +- 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 10.50 : +- 0.10	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 10.60 : ← 0.20	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure		

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 500
Rack travel in mm Tolerance mm	: 5.50 : + 0.10
Del. quantity cm3/1000 strokes Tolerance	: 29.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s. Spreed	: +- 4.5
Tolerance cm3/1000 strokes	: 3.5
Check tolerance cm3/1000s.	: 5.5
	

End of test specification sheet

Tolerance	
cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000S. Spreed	: +- 5.0
Tolerance cm3/1000 strokes Check tolerance	: 6.0
cm3/1000s.	: 9.0
rack travel mm Tolerance mm	: 10.60 : + 0.20

Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 127.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 1.00

hPa

Note remarks

Refer to Service Info or test and adjustment instructions. See microcard(s) W40('...

Edition : ,.10.96 Test oil : ISO 4113

Combination No. : 9 400 030 721

Injection pump

Pump designation : PES6A95D320/3RS2895

EP type number : 9 410 037 238

Governor

Governer design. : RSV475...1250A0C839R

Governer no.

Cust. part No. : 3929601

Customer-spec. information Customer : CDC

Motor Power KW

: 6BTA : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.70Tolerance mm : $\leftarrow 0.05$

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

Start of delivery blocking

"NW after s.o.d. : 9.00 Tolerance : \leftarrow 0.10

Check

tolerance °NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.70

Tolerance mm : +- 0.05

Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 107.5	+ hPa : 900
	+ Del. quantity
Tolerance	+ cm3/1000 strokes : 107.5
cm3/1000 strokes : +- 1.0	+ Tolerance
Chist 1000 Strokes . T. T.b	+ cm3/1000 strokes : +- 1.0
Charle del anoma	(
Check tolerance	+ Check tolerance
cm3/1000s. : +- 3.0	+ cm3/1000s. : +- 3.0
	+ Spreed
Spreed	+ Tolerance
	+ cm3/1000 strokes : 3.5
Tolerance	+ Check tolerance
cm3/1000 strokes : 3.5	+ cm3/1000s. : 6.0
	+
Check tolerance	
cm3/1000s. : 6.0	
(115) 10003.	+ CONTROL LEVER
	T CONTROL LEVER
	T
550	+ control lever
Rated speed rpm : 550	position degree : 108.0
	+ tolerance degree : +- 4.0
Rack travel in mm : 5.50	+
Tolerance mm : + 0.10	+ RATED SPEED
Del. quantity	+ rack travel mm : 11.80
cm3/1000 strokes : 17.5	+ Rated speed rpm : 1325
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	1 receitance training
Check tolerance	rack travel mm : 5.80
cm3/1000s. : +- 4.5	+ Rated speed rpm : 1385
Spreed	† Tolerance 1/min : +- 5
Tolerance	+
cm3/1000 strokes : 3.5	+ rack travel mm : 0.85
Check tolerance	+ Tolerance mm : + 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1450
	_
	rack travel mm : 5.80
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1385
=	Tolerance 1/min : +- 15
WITH GOVERNOR	T rocerance min . — 15
	†
	†
	†
GUIDE SLEEVE POSITION	+
	+ LOW IDLE
	+
control lever	+
position degree : FREE	- control lever
Rated speed rpm : 800	position degree : 78.0
nated speed i pili . 000	
Deal Annual in many 0.50	tolerance degree : +- 4.0
Rack travel in mm: 0.50	T control love discount
Tolerance mm : +- 0.20	+ Control lever difference
	+ Grad : 30.0
governor spring	+ tolerance degree : +- 4.0
pre-tension	+
click setting x : 4.50	+ Setting point w/out bumper spring
	+
	Rated speed rpm : 550
FULL LOAD DELIVERY AT FULL LOAD STOP	+ rack travel mm : 5.00
TOLL LONG DELIVERT AT TOLL LONG STOP	+ Tolerance mm : +- 0.10
Detail aread pro : 1250	Toterance min : TO:10
Rated speed rpm : 1250	+ Rated speed rpm : 100
	→ Kareo speed rom ' 1991

Rated speed rpm : 100

CRT mm min. : > 19.00 Testing: Rated speed rpm 550 5.50 rack travel mm Tolerance mm : +- 0.10TORQUE CONTROL 1250 Rated speed rpm 12.70 rack travel mm : +- 0.05 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm 900 Pressure hPa Rated speed rpm 500 Pressure hPa rack travel mm 10.70 Tolerance mm : + - 0.10**MEASUREMENT** 500 Rated speed rpm 480 Pressure hPa 12.20 rack travel mm Tolerance mm : **←** 0.20 Pressure hPa 350 11.40 rack travel mm Tolerance mm : +- 0.20 FUEL DELIVERY CHARACTERISTICS Aneroid pressure Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 72.5 Tolerance cm3/1000 strokes : \leftarrow 1.0 Check tolerance cm3/1000s. 3.0

Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 121.5 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 550 5.50 Rack travel in mm : Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 17.5 Tolerance

2.0

4.5

3.5

5.5

End of test specification sheet

cm3/1000 strokes : +-

cm3/1000 strokes :

Check tolerance

Check tolerance

cm3/1000S.

Tolerance

cm3/1000s.

Spreed

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Test oil

: 16.10.96

: ISO 4113

Combination No. : 9 400 030 730

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0C844R

Governer no. : 9 420 034 710

Cust. part No. : 3928599

Customer-spec. information Customer : CDC : 6BTA : 111.0 Motor

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C : **←** 2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.55

Tolerance mm : \leftarrow 0.05

Del. quantity	- Aneroid pressure
cm3/1000 strokes : 96.0	- hPa : 900 - Del. quantity
Tolerance cm3/1000 strokes : +- 1.0	- cm3/1000 strokes : 96.0 - Tolerance
Check tolerance	- cm3/1000 strokes : +- 1.0 - Check tolerance
cm3/1000s. : + 3.0	- cm3/1000s. : +- 3.0 - Spreed
Spreed	- Spreed - Tolerance - cm3/1000 strokes : 3.5
Tolerance	- Check tolerance - cm3/1000s. : 6.0
cm3/1000 strokes : 3.5	- CM3/ (0005. : 6.0
Check tolerance cm3/1000S. : 6.0	CONTROL LEVED
	- CONTROL LEVER -
+	- control lever
Rated speed rpm : 475	position degree : 106.0
Rack travel in mm : 5.50	- tolerance degree : +- 4.0
Tolerance mm : + 0.10	- RATED SPEED
Del. quantity	rack travel mm : 10.50
cm3/1000 strokes : 22.0	- Rated speed rpm : 1155
Tolerance	Tolerance 1/min : + 5
$cm3/1000$ strokes : \leftarrow 2.0 $+$	•
Check tolerance	rack travel mm : 6.00
cm3/1000s. : +- 4.5 +	Rated speed rpm : 1225
Spreed	Tolerance 1/min : +- 5
Tolerance + cm3/1000 strokes : 3.5 +	- rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1300
. 3.3	
 	rack travel mm : 6.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1225
WITH GOVERNOR +	Tolerance 1/min : +- 15
+	
	•
GUIDE SLEEVE POSITION	
GOIDE SEELAE (OSITION	· LOW IDLE
4	
control lever	
position degree : -3	control lever
Rated speed rpm : 800 +	position degree : 85.0
†	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Control Louis difference
Tolerance mm : +- 0.20	Control lever difference Grad: 21.0
governor spring	Grad : 21.0 tolerance degree : +- 6.0
governor spring + pre-tension +	
click setting x : 4.00	Setting point w/out bumper spring
+	
	Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.00
+	Tolerance mm : +- 0.10
Rated speed rpm : 1100	Dated around non 100
+	Rated speed rpm : 100

CRT mm min. Testing:	: > 19.00	Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0
Rated speed rpm rack travel mm Tolerance mm	: 5.50	rack travel mm : 12.60 Tolerance mm : + 0.20
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 11.55 : + 0.05 : 1000 : 12.50 : + 0.10 : 800 : 12.60	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 77.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
Tolerance mm	: +- 0.20	STARTING FUEL DELIVERY
ANEROID/ALTITUDE COMPENSATOR TEST		Rated speed rpm : 100 - rack travel mm : 20.50 - Tolerance mm : + 0.50
SETTING		+ Del. quantity + cm3/1000 strokes : 120.5 + Tolerance
Rated speed rpm Pressure hPa	: 500 : 900	cm3/1000 strokes : +- 10.0 + Check tolerance + cm3/1000s. : +- 15.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: - : 9.90	+ + +
MEASUREMENT		+ LOW IDLE + + Rated speed rpm : 475
Rated speed rpm	: 500	Rack travel in mm: 5.50
Pressure hPa rack travel mm Tolerance mm	: 600 : 11.90 : +- 0.20	Tolerance mm : + 0.10 + Del. quantity + cm3/1000 strokes : 22.0
Pressure hPa rack travel mm	: 360 : 10,40	Tolerance + cm3/1000 strokes : +- 2.0 + Check tolerance
Tolerance mm	: +- 0.20	cm3/1000S. : + 4.5 Spreed Tolerance
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes		End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 15.10.96 : ISO 4113

Combination No. : 9 400 030 736

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : Governer no.

: 9 420 034 715

Cust. part No. : 3929769

Customer-spec. information

Customer : CDC Motor : 6BT

Power KW

: 88.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

RFMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

°NW after s.o.d. : 7.00 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in min: 9.55

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 80.0	- Aneroid pressure - hPa : - - Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 80.0 Tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
Spreed	Spreed Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL LEVER
Rated speed rpm : 425	control lever 114.0
+	tolerance degree : +- 4.0
Rack travel in mm : 5.10 + Tolerance mm : + 0.10 + Del. quantity +	RATED SPEED : 8.50
cm3/1000 strokes : 18.5 + Tolerance +	Rated speed rpm : 1280 Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 + Check tolerance cm3/1000s. : + 4.5 +	rack travel mm : 5.60 Rated speed rpm : 1335
Spreed +	Tolerance 1/min : + 5
cm3/1000 strokes : 3.5 Check tolerance + cm3/1000s. : 5.5	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1465
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 5.60 Rated speed rpm : 1335 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION +	LOW IDLE
control lever position degree : -3 Rated speed rpm : 800	control lever position degree : 88.0 tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	Control lever difference Grad : 26.0
governor spring	tolerance degree : + 6.0
pre-tension click setting x : 4.75	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 425 rack travel mm : 4.60
Rated speed rpm : 1200 +	Tolerance mm : +- 0.10
+	Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 425 rack travel mm : 5.10 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1200 rack travel mm : 9.55 Tolerance mm : + 0.05

Rated speed rpm : 800

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 120.5
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance

cm3/1000s. : \leftarrow 15.0

LOW IDLE

Rated speed rpm : 425

Rack travel in mm : 5.10
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 18.5
Tolerance

cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : +- 4.5 Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.10.96 Edition : ISO 4113 Test oil

Combination No. : F 002 A0Z 004

Injection pump

Pump designation : PES6A100D320/3RS3513

EP type number : F 002 A10 002

Governor

Governer design. : RSV450...900A4C868R

Governer no. : F 002 A20 205

Cust. part No. : 3931253

Customer-spec. information

Customer : CDC

: 6CT 8.3 Motor

Power KW : 154.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

: 1 417 413 047 Overflow valve

Inlet press. bar : 2.0

Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.55 : + 0.05Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

°NW after s.o.d. : 8.25

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

900 Rated speed rpm :

Rack travel in mm : 13.15

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 157.0

†	Check tolerance
Tolerance + 1.0 + 1.0	cm3/1000S. : +- 3.0 Spreed Tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000 strokes : 4.0 Check tolerance
Spreed	cm3/1000s. : 6.5
Tolerance + cm3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance	control lever position degree : 103.0 tolerance degree : +- 4.0
Į	RATED SPEED
Rated speed rpm : 450	rack travel mm : 12.10
Rack travel in mm: 5.50 +	Rated speed rpm : 960 Tolerance 1/min : +- 5
Rack travel in mm: 5.50 + Tolerance mm: + 0.10 +	Toterance T/MT// : +- 3
Del. quantity	rack travel mm : 4.50
cm3/1000 strokes : 22.5	Rated speed rpm : 995
Tolerance + 2.0 +	Tolerance 1/min : +- 5
Check tolerance	rack travel mm : 0.85
cm3/1000s. : + 4.5	Tolerance mm : +- 0.55
Spreed +	Rated speed rpm : 1050
Tolerance + cm3/1000 strokes : 6.0 +	rack travel mm : 4.50
Check tolerance +	Rated speed rpm : 995
cm3/1000s. : 8.0	Tolerance 1/min : +- 15
-	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
+	10LL
GUIDE SLEEVE POSITION +	control lever
GOIDE SEEEVE FOSTITON	position degree : 80.0
+	tolerance degree : +- 4.0
control lever + position degree : -3 +	Control lever difference
position degree : -3 +	Grad : 23.0
governor spring	tolerance degree : +- 4.0
pre-tension $+$ click setting x : 4.25	Setting point w/out bumper spring
	Rated speed rpm : 450
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.00
+	Tolerance mm : \leftarrow 0.10
Rated speed rpm : 900 + Aneroid pressure +	Rated speed rpm : 100
hPa : -	nated speed i piii . Too
Del. quantity	CRT mm min. : > 19.00
cm3/1000 strokes : 157.0	Tosting
Tolerance + cm3/1900 strokes : + 1.0 +	Testing:
1.000 001 01100	Rated speed rpm : 450

5.50 rack travel mm Tolerance mm : +- 0.10

TORQUE CONTROL

900 Rated speed rpm rack travel mm 13.15 Tolerance mm : + 0.05

STARTING FUEL DELIVERY

100 Rated speed rpm 20.50 rack travel mm Tolerance mm : **←** 0.50 Del. quantity cm3/1000 strokes : 140.5 Tolerance

cm3/1000 strokes : +- 10.0Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 450

5.50 Rack travel in mm : : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : +-2.0

Check tolerance cm3/1000s.

: +-4.5 Spreed

Tolerance

cm3/1000 strckes : 6.0

Check tolerance

8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.01.98 Test oil : ISO 4113

Combination No. : 0 400 864 112

Injection pump

Pump designation : PES4A95D410/3RS2934 EP type number : 0 410 894 983

Governor

Governer design. : RSV325...1250A5C858L

Governer no. : 0 420 232 621

Cust. part No. : 0423 2525 KY

Customer-spec. information Customer : KHD

Motor : F4L913 COM1

Power KW : 59.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00Tolerance mm : $\leftarrow 0.05$

Check

tolerance mm : +- 0.10

Rack travel in mm : 17.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 9.80 Tolerance mm : + 0.05

Rack travel in mm : 9.00 Tolerance mm : +- 0.10

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : FREE Rated speed rpm : 800

Rack travel in mm : 0.50 Tolerance mm : + 0.20

governor spring

pre-tension

click setting x : 5.00

CONTROL LEVER

control lever

position degree : 108.0 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 8.80 Rated speed rpm : 1295 Tolerance 1/min : + 5

rack travel mm : 4.00 Rated speed rpm : 1345 Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1530

rack travel mm : 4.00 Rated speed rpm : 1370 Tolerance 1/min : + 15

LOW IDLE

control lever

position degree : 76.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 540
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 9.80 Tolerance mm : +- 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.50 Tolerance mm : +-0.75

LOW IDLE

Rack travel in mm : 9.00 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.07.98 : ISO 4113

Combination No. : 0 400 866 143AA

Injection pump

Pump designation : PES6A95D12ORS2773

EP type number

: 0 410

Governor

Governer design. : RSV350...1250A0C2237

: R

Governer no.

: 0 420

Cust. part No. : 32719459

Customer-spec. information

Customer

: CUMMINS

Motor

: 6BT-145PS/2600

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve

: 1 419 992 198

Inlet press. bar :

1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter : 2.0

x length mm

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 2.15 : +- 0.05 Tolerance mm

Check

: + - 0.10tolerance mm

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 11.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

1300

Rack travel in mm : 8.10 Tolerance mm : + - 0.05

Del. quantity

cm3/1000 strokes :

76.0

Tolerance	+ Tolerance
cm3/1000 strokes : +- 1.0	+ cm3/1000 strokes : + 1.0
	+ Check tolerance
Check tolerance	+ cm3/1000s. : +- 3.5
$cm3/1000s$. : \leftarrow 3.5	+ Spreed
	+ Tolerance
Spreed	+ cm3/1000 strokes : 4.0
•	1 Check tolerance
Tolerance	$\frac{1}{2}$ cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	}
	+
Check tolerance	+
cm3/1000s. : 6.5	+ CONTROL LEVER
	+
	+ control lever
	+ position degree : 99.0
Rated speed rpm : 350	tolerance degree : +- 4.0
	+
Rack travel in mm : 6.00	+ RATED SPEED
Tolerance mm : \leftarrow 0.10	+ rack travel mm : 7.10
Del. quantity	+ Rated speed rpm : 1345
cm3/1000 strokes : 13.0	† Tolerance 1/min : +- 5
Tolerance	+
cm3/1000 strokes : \leftarrow 2.0	+ rack travel mm : 4.00
Check tolerance	+ Rated speed rpm : 1415
cm3/1000s. : \leftarrow 4.5	† Tolerance 1/min : +- 15
Spreed	†
Tolerance	+ rack travel mm : 0.85
cm3/1000 strokes : 6.0	+ Tolerance mm : + 0.55
Check tolerance	+ Rated speed rpm : 1570
cm3/1000s. : 8.0	†
	+ rack travel mm : 4.00
4-2	+ Rated speed rpm : 1420
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : + 15
WITH GOVERNOR	†
	†
	Ť
GUIDE SLEEVE POSITION	T LOW IDLE
GOINE SEELAE 1 GSI11GM	1 204 1722
control lever	control lever
position degree : FREE	position degree : 80.0
Rated speed rpm : 800	+ tolerance degree : +- 4.0
	1
Rack travel in mm : 0.50	Setting point w/out bumper spring
Tolerance mm : +- 0.20	+
	+ Rated speed rpm : 350
governor spring	+ rack travel mm : 5.50
pre-tension	† Tolerance mm : +- 0.10
click setting x : 4.25	+
•	† Testing:
	+
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated speed rpm : 350
	+ rack travel mm : 6.00
Rated speed rpm : 1300	† Tolerance mm : + 0.10
Aneroid pressure	+
hPa : -	† rack travel mm : 2.00
Del. quantity	+ Rated speed rpm : 555
cm3/1000 strokes : 76.0	+ Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1300 8.10 rack travel mm : + - 0.05Tolerance mm

: 500 Rated speed rpm 8.55 rack travel mm : : + - 0.05Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity cm3/1000 strokes : 57.5

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

3.5 cm3/1000s.

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 13.10 : +- 0.10 Tolerance mm Del. quantity

cm3/1000 strokes : 105.0 Tolerance

cm3/1000 strokes : +- 5.0

Check tolerance

7.5 cm3/1000s.

LOW IDLE

350 Rated speed rpm :

Rack travel in mm: 6.00 Tolerance mm : +- 0.10 Del. quantity

cm3/1000 strokes : 13.0 Tolerance

cm3/1000 strokes : +-2.0 Check tolerance

cm3/1000s.

Spreed Tolerance

cm3/1000 strokes : 6.0 Check tolerance cm3/1000s.

8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.07.98 Test oil : ISO 4113

Combination No. : 0 400 866 145BA

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410

Governor

Governer design. : RSV400...1100A0C2190

: -35R

Governer no. : 0 420

Cust. part No. :

Customer-spec. information

Customer : CUMMINS

Motor : 6 C Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 017

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 28.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

BASIC SETTING

Rated speed rpm: : 900

Rack travel in mm : 11.05

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 101.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s.

: +- 3.0

Spreed

Tolerance cm3/1000 strokes : 4.0	+ rack travel mm : 10.00 + Rated speed rpm : 945 + Tolerance 1/min : + 5
Check tolerance cm3/1000s. : 6.5	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1470
Rated speed rpm : 350	†
Rack travel in mm : 4.50 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 12.0	LOW IDLE Setting point w/out bumper spring
Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5	+ Rated speed rpm : 350 + rack travel mm : 5.00 + Tolerance mm : + 0.10
Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000S. : 8.0	Testing: Rated speed rpm : 350 rack travel mm : 4.50 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	TORQUE CONTROL Rated speed rpm : 900 rack travel mm : 11.05 Tolerance mm : + 0.05
control lever position degree : - 3 governor spring	Rated speed rpm : 500 rack travel mm : 11.10 Tolerance mm : +- 0.10
pre-tension click setting x : 5.50	FUEL DELIVERY CHARACTERISTICS
FULL LOAD DELIVERY AT FULL LOAD STOP	Aneroid pressure hPa : -
Rated speed rpm : 900 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 101.0 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 3.0 Spreed	Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 99.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00 Del. quantity cm3/1000 strokes : 145.0
RATED SPEED	T (113) 1000 STOKES : 143.8

To	lerance	

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 13.0

LOW IDLE

350 Rated speed rpm :

Rack travel in mm: 4.50 Tolerance mm : +- 0.10

Del. quantity cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance cm3/1000s.

4.5

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000S. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 24.07.98 : ISO 4113

Combination No. : 0 400 866 188AA

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number

: 0 41

Governor

Governer design. : RSV425...750A4C2213

: -5R

Governer no.

: 0 42

Cust. part No. : 3921160

Customer-spec. information

Customer

: CDC

Motor

: 6 CT/207Ps/1800

TEST BENCH REQUIREMENTS

Inlet line : 2.0

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar :

1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 014

Outside diameter : 6.0

x inside diameter :

2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 28.0 Tolerance bar : + 1.0

Prestroke mm

2.85

Tolerance mm : +- 0.05

Check

tolerance mm

: ← 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance °NW

: +- 0.75

Start of delivery mark

°NW after s.o.d. : 10.00

Barrel no. :

1

BASIC SETTING

Rated speed rpm :

830

Rack travel in mm: 13.45

Tolerance mm

: + - 0.05

Del. quantity

cm3/1000 strokes :

139.0

Tolerance	† Tolerance
cm3/1000 strokes : +- 1.0	+ cm3/1000 strokes : +- 1.0
	+ Check tolerance
Check tolerance	+ cm3/1000s. : +- 3.5
$cm3/1000s$. : \leftarrow 3.5	+ Spreed
	+ Tolerance
Spreed	cm3/1000 strokes : 4.0
	+ Check tolerance
Tolerance	+ cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	1 (11)37 (00003: . 0.3
CIID/ IDUD STI ORES . 4.0	Ţ
Check tolerance	T
	CONTROL LEVED
cm3/1000s. : 6.5	+ CONTROL LEVER
	T
	control lever
	position degree : 102.0
Rated speed rpm : 425	tolerance degree : +- 4.0
B 1 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	T DATES COURS
Rack travel in mm: 5.20	+ RATED SPEED
Tolerance mm : +- 0.10	+ rack travel mm : 12.40
Del. quantity	Rated speed rpm : 930
cm3/1000 strokes : 11.5	+ Tolerance 1/min : +- 5
Tolerance -	+
cm3/1000 strokes : + 2.0	† rack travel mm : 4.00
Check tolerance	+ Rated speed rpm : 970
cm3/1000s. : $+$ 4.5	Tolerance 1/min : + 15
Spreed	
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 6.0	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1100
cm3/1000s. : 8.0	L Marca opeca (p.m. 1 1100
CIIIS/ 10005: . 0.0	rack travel mm : 4.00
	Rated speed rpm : 975
(D) OFTTING OF THEFETTON DUMP	The state of the s
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR	†
•	<u>†</u>
	T
GUIDE SLEEVE POSITION -	LOW IDLE
GOIDE SEEENE LOSTITOM	T COW IDEL
•	
control lever	control lever
	position degree : 76.0
position degree : FREE -	tolerance degree : 70.0 + 4.0
Rated speed rpm : 800 -	toterance degree : +- 4.0
Deal Americal de seu con C FO	Catting paint/aut buman apping
Rack travel in mm: 0.50	Setting point w/out bumper spring
Tolerance mm : + 0.20 -	1 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2 2 2 2
<u>.</u>	Rated speed rpm : 425
governor spring -	rack travel mm : 4.70
pre-tension -	Tolerance mm : +- 0.10
click setting x : 4.00 -	
-	† Testing:
	
FULL LOAD DELIVERY AT FULL LOAD STOP -	Rated speed rpm : 425
-	frack travel mm : 5.20
Rated speed rpm : 830 -	Tolerance mm : + 0.10
Aneroid pressure	+
hPa : -	rack travel mm : 2.00
Del. quantity	Rated speed rpm : 460
cm3/1000 strokes : 139.0	Tolerance 1/min : +- 30
	•

TORQUE CONTROL

830 Rated speed rpm 13.45 rack travel mm : +- 0.05 Tolerance mm

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : +- 1.00 Del. quantity

cm3/1000 strokes : 143.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 13.0

LOW IDLE

425 Rated speed rpm :

5.20 Rack travel in mm : : **←** 0.10 Tolerance mm Del. quantity

cm3/1000 strokes :

11.5 Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance cm3/1000s.4.5

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.07.98 Test oil : ISO 4113

Combination No. : 0 400 866 197AB

Injection pump

Pump designation : PES6A100D320/3RS2691

: -4

EP type number : 9 41

Governor

Governer design. : RSV450...1100A0C2238

: -3R

Governer no. : 0 42

Cust. part No. : 3915996

Customer—spec. information

Customer : CDC

Motor : 6 CT/202Ps/2200

TEST BENCH REQUIREMENTS

Inlet line : 2.

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 017

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 28.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

°NW after s.o.d. : 11.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.15 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 119.5

C18

Tolerance	+ Tolerance
cm3/1000 strokes : +- 1.0	cm3/1000 strokes : +- 1.0
Choriodo strokes	+ Check tolerance
Ob and the language	
Check tolerance	+ cm3/1000s. : +- 3.5
cm3/1000s. : +- 3.5	+ Spreed
	+ Tolerance
Spreed	cm3/1000 strokes : 4.0
opi ccu	Check tolerance
7-1	
Tolerance	+ cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	†
	+
Check tolerance	
cm3/1000s. : 6.5	CONTROL LEVER
1 013	1
	control lever
	position degree : 46.0
Rated speed rpm : 450	+ tolerance degree : +- 4.0
·	+
Rack travel in mm : 5.50	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 11.10
	Rated speed rpm : 1145
Del. quantity	· · · · · · · · · · · · · · · · · · ·
cm3/1000 strokes : 18.0	Tolerance 1/min : +- 5
Tolerance	+
cm $3/1000$ strokes : \leftarrow 2.0	├ rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1200
cm3/1000s. : + 4.5	Tolerance 1/min : + 15
	I Total direction in the second
Spreed	7
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 6.0	├ Tolerance mm : + 0.55
Check tolerance	Rated speed rpm : 1355
cm3/1000s. : 8.0	
	rack travel mm : 4.00
	Rated speed rpm : 1205
•	
(D) ACTIVIA OF THEFATAN DIM	
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
(B) SETTING OF INJECTION PUMP - WITH GOVERNOR -	† Tolerance T/min : +- 15 †
	Tolerance T/min : +- 15
	Tolerance I/min : +- 15
	Tolerance T/min : +- 15
WITH GOVERNOR -	
	Tolerance 1/min : +- 15
WITH GOVERNOR -	
WITH GOVERNOR -	LOW IDLE
WITH GOVERNOR -	
GUIDE SLEEVE POSITION control lever	LOW IDLE
GUIDE SLEEVE POSITION control lever position degree : FREE	LOW IDLE control lever position degree : 26.0
WITH GOVERNOR GUIDE SLEEVE POSITION control lever	LOW IDLE control lever
WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0
WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	LOW IDLE control lever position degree : 26.0
WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450
GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450
WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00
WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450
WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10
WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00
GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10 Testing:
WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	LOW IDLE control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10
GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00	control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 450
GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 450 rack travel mm : 5.50
GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100	control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 450
GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure	control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 450 rack travel mm : 5.50 Tolerance mm : 5.50 Tolerance mm : +- 0.10
GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 900	control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 450 rack travel mm : 5.50 Tolerance mm : +- 0.10 rack travel mm : 5.50 Tolerance mm : +- 0.10
GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 900 Del. quantity	control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 450 rack travel mm : 5.50 Tolerance mm : 5.50 Tolerance mm : +- 0.10
GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 2.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 900	control lever position degree : 26.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.00 Tolerance mm : +- 0.10 Testing: Rated speed rpm : 450 rack travel mm : 5.50 Tolerance mm : 5.50 Tolerance mm : 5.50 Tolerance mm : 2.00

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.15 : + 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.30 : + 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 900	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.45 : + 0.10	
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 560 : 12.80 : ← 0.20	
Pressure hPa rack travel mm Tolerance mm	: 385 : 11.45 : +- 0.05	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa Rated speed rpm	: 900 : 750	
Del. quantity cm3/1000 strokes Tolerance	: 135.0	
cm3/1000 strokes Check tolerance	: +- 2.0	
cm3/1000s.	: +- 4.0	
Aneroid pressure		
nPa Rated speed rpm	500	

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 79.0 : +- 1.0 : +- 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE Rated speed rpm	: 450
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 03.08.98

Test oil

: ISO 4113

Combination No. : 0 400 865 2148A

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 030

Governor

Governer design. : RSV400...1100A0C2190

: -84R

Governer no.

: 0 420 233 323

Cust. part No. : 3921129

Customer-spec. information

Customer

: CUMMINS

Motor

: 6CT830

Power KW

: 134.2

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

44)

Tolerance °C

: +- 2.0

Overflow valve

: 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm

: +- 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

2.85

Tolerance : **←** 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 11.00 Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

1100

Rack travel in mm: 12.40 Tolerance mm : \leftarrow 0.05

C21

+	Aneroid pressure
Del. quantity cm3/1000 strokes : 119.0	hPa : - Del. quantity
Tolerance + 1.0 +	cm3/1000 strokes : 119.0 Tolerance cm3/1000 strokes : + 1.0
	Check tolerance
Check tolerance	cm3/1000s. : +- 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 4.0 Check tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	CONTROL LEVER
	control lever
Rated speed rpm : 470	position degree : 103.0 tolerance degree : +- 4.0
Rated speed (pin) . 470	toterance degree . +- 4.0
Rack travel in mm: 5.90	RATED SPEED
Tolerance mm : \(\pi\) 0.10 \\ \(\ph\)	rack travel mm : 11.40 Rated speed rpm : 1150
cm3/1000 strokes : 17.5	Tolerance 1/min : +- 5
Tolerance + 2.0 +	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1210
cm3/1000s. : +- 4.5	Tolerance 1/min : ← 15
Spreed + Tolerance +	rack travel mm : 0.85
cm3/1000 strokes : 6.0	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1350
cm3/1000s. : 8.0	rack travel mm : 4.00
Ţ	Rated speed rpm : 1220
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15
‡	
GUIDE SLEEVE POSITION	LOW IDLE
control lever	control lever
position degree : -3	position degree : 85.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm : 0.50	Control lever difference
Tolerance mm : + 0.20	Grad : 18.0 tolerance degree : +- 4.0
governor spring	-
pre-tension + click setting x : 4.25 +	Setting point w/out bumper spring
1	Rated speed rpm : 470
FIRE LOAD DELTUEDY AT FULL LOAD STOR	rack travel mm : 5.40
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 1100	Rated speed rpm : 100

CRT mm min. : > 19.00 Testing: 470 Rated speed rpm 5.90 rack travel mm : +- 0.10Tolerance mm TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 12.40 Tolerance mm : +- 0.05 750 Rated speed rpm 13.50 rack travel mm Tolerance mm : **←** 0.20 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 750 Rated speed rpm Del. quantity cm3/1000 strokes : 134.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s.4.0 STARTING FUEL DELIVERY 100 Rated speed rpm 20.50 rack travel mm : : + - 0.50Tolerance mm Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : \leftarrow 10.0 Check tolerance : **←** 15.0 cm3/1000s.LOW IDLE

470

5.90

17.5

Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0

End of test specification sheet

Rated speed rpm :

Rack travel in mm :

cm3/1000 strokes :

Del. quantity

Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 03.08.98

Test oil

Combination No. : 9 400 030 669FS

Injection bumb

Pump designation : PES6A100D320/3RS3503

EP type number : 9 410

Governor

Governer design. : RQV400...1250AB1301R

Governer no. : 9 420

Cust. part No. : TATA-CUMMINS

Customer-spec. information

Customer : CUMMINS

Motor

: 6BTAA-160

: 118.0

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2;

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 9 451 037 430

Inlet press. bar : 2.0 Tolerance bar : + 0.1

2.0

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.10 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance "NW : \leftarrow 0.75

Start of delivery blocking

"NW after s.o.d. : 7.00 Tolerance : +- 0.10

Check tolerance °NW

: +- 0.29

Barrel no. : 1

Rated speed rpm :

BASIC SETTING

1000

Rack travel in mm : 11.75

C24

Tolerance mm : +- 0.05	+ guide sleeve
No. 1 manufacture	+ travel mm : 2.75
Del. quantity cm3/1000 strokes : 97.7	Tolerance mm : +- 0.25
CIII3/ 1000 3C1 0RES . 97.1	Rated speed rpm : 549
Tolerance	+ guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 3.30
	+ Tolerance mm : + 0.25
Check tolerance	+
$cm3/1000s.$: \leftarrow 3.0	+ Rated speed rpm : 560
	+ guide sleeve
Spreed	+ travel mm : 3.37
Talanana	+ Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : 3.5	Rated speed rpm : 1620
CIII37 1000 SELOKES . 5.3	+ Rated speed rpm : 1620 + guide sleeve
Check tolerance	travel mm : 11.50
cm3/1000s. : 6.0	+ Tolerance mm : + 0.50
	+
	+
	+ GUIDE SLEEVE POSITION
Rated speed rpm : 400	†
D. J. Americal States of COO.	+ Rated speed rpm : 1250
Rack travel in mm : 6.00 Tolerance mm : + 0.10	Posts travel in me s 16.00
Tolerance mm : +- 0.10 Del. quantity	+ Rack travel in mm : 16.00 + Tolerance mm : +- 1.30
cm3/1000 strokes : 10.0	T Toterance him . 4 = 1.50
Tolerance	
cm3/1000 strokes : + 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+
cm3/1000s. : \leftarrow 4.5	Rated speed rpm : 1000
Spreed	+ Aneroid pressure
Tolerance	+ hPa : 600
cm3/1000 strokes : 4.5	+ Del. quantity
Check tolerance cm3/1000s. : 5.5	+ cm3/1000 strokes : 97.7 + Tolerance
CIID/ 10003 J.J	+ cm3/1000 strokes : + 1.0
	Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : + 3.0
WITH GOVERNOR	Spreed
	+ Tolerance
	+ cm3/1000 strokes : 3.5
GUIDE SLEEVE TRAVEL	+ Check tolerance
Dated around man 47/7	+ cm3/1000s. : 6.0
Rated speed rpm : 1347 guide sleeve	†
travel mm : 8.48	I
Tolerance mm : + 0.15	CONTROL LEVER
, 5 (5) 41, 10 5 man	- CONTROL CEVER
Rated speed rpm : 400	control lever
guide sleeve	position degree : 61.0
travel mm : 1.71	tolerance degree : +- 4.0
Tolerance mm : + 0.20	†
Out and some and some and some	+ RATED SPEED
Rated speed rpm : 880	+ rack travel mm : 10.75 + Rated speed rpm : 1300
guide sleeve travel mm : 4.97	+ Rated speed rpm : 1300 + Tolerance 1/min : +- 5
Tolerance mm : +- 0.25	T (VICIALLE I/IIIII) T
	1
Total and the second	}
Rated speed rpm : 499	rack travel mm : 4.00 Rated speed rpm : 1425

Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1485	rack travel mm : 10.50 Tolerance mm : + 0.10 MEASUREMENT
	Rated speed rpm : 550 Pressure hPa : 400 rack travel mm : 11.20
LOW IDLE	Tolerance mm : + 0.20 Pressure hPa : 340
control lever position degree : 15.0 tolerance degree : + 4.0	Pressure hPa : 340 rack travel mm : 10.80 Tolerance mm : + 0.20
Setting point w/out bumper spring	Start interlock
Rated speed rpm : 100	Rated speed rpm : > 120 Rated speed rpm : < 300
CRT mm min. : > 9.00 Testing:	+ Check + speed 1/min : > 100
Rated speed rpm : 400 rack travel mm : 6.00 Tolerance mm : + 0.10	Check speed 1/min : < 340
rack travel mm : 2.00 Rated speed rpm : 625 Tolerance 1/min : +- 30	FUEL DELIVERY CHARACTERISTICS Aneroid pressure
TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 11.75 Tolerance mm : + 0.05	hPa : 600 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 96.2 Tolerance cm3/1000 strokes : +- 2.0
Rated speed rpm : 750 rack travel mm : 11.75 Tolerance mm : + 0.10	Check tolerance cm3/1000s. : +- 3.5 Spreed Tolerance
Rated speed rpm : 1250 rack travel mm : 11.75 Tolerance mm : + 0.10	cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 10.0
ANEROID/ALTITUDE COMPENSATOR TEST	Aneroid pressure hPa : 600 Rated speed rpm : 1250 rack travel mm : 11.75
SETTING	Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 99.4
Rated speed rpm : 550 Pressure hPa : 600	Tolerance - cm3/1000 strokes : +- 2.0
rack travel mm : 11.75 Tolerance mm : +- 0.10	+ Check tolerance + cm3/1000s. : + 3.5 + Spreed
Rated speed rpm : 550 Pressure hPa : -	Tolerance cm3/1000 strokes : 8.0

Check tolerance cm3/1000s.	: 10.0
Aneroid pressure	
Rated speed rpm	: 550
Del. quantity cm3/1000 strokes	: 64.3
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: +- 3.0
Spreed Tolerance	
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 10.0
OTABETAIC FIRE DEL	THERM
STARTING FUEL DEL	
Rated speed rpm rack travel mm	: 100 : 12.00
Tolerance mm	: ← 0.75
Del. quantity cm3/1000 strokes	: 109.0
Tolerance cm3/1000 strokes	: +- 8.0
Check tolerance	: +- 10.0
cm3/1000s.	. 10.0
LOW IDLE	
Rated speed rpm	: 400
Rack travel in mm	: 6.00
Tolerance mm Del. quantity	: +- 0.10
cm3/1000 strokes Tolerance	: 10.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: +- 4.5
Tolerance	: 4.5
cm3/1000 strokes	: 4.5
Check tolerance cm3/1000s.	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 01.08.98

Test oil

: ISO 4113

Combination No. : 9 400 030 719

Injection pump

Pump designation : PES3A90D410RS2894

EP type number : 9 410 037 239

Governor

Governer design. : RSV300...1100A4C903L

Governer no.

: F 002 A20 004

Cust. part No. : ESCORTS

Customer—spec. information

Motor

: E3-179

Power KW

26.1

TEST BENCH REQUIREMENTS

Inlet line : 2.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 012

Inlet press. bar : 1.5

Test nozzie holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 014

Outside diameter :

6.0

x inside diameter :

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm

3.50

Tolerance mm

: **←** 0.05

Check

tolerance mm

: +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-2-3

Phasing

: 0-120-240

Tolerance

: +- 0.50

Check

tolerance °NW

: +- 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.60

Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes :

59.0

Tolerance

cm3/1000 strokes : +-

0.5

Check tolerance

cm3/1000s.

1.5

Spreed

Tolerance

cm3/1000 strokes :

2.0

Check tolerance - 5.0	t
	CONTROL LEVER
Rated speed rpm : 300 -	control lever position degree : 120.0 tolerance degree : +- 4.0
Rack travel in mm : 5.50 - Tolerance mm : +- 0.10 - Del. quantity -	- RATED SPEED - rack travel mm : 8.60
cm3/1000 strokes : 12.0 - Tolerance -	Rated speed rpm : 1225 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0 Check tolerance	rack travel mm : 4.00
cm3/1000s. : + 3.0 - Spreed	- Rated speed rpm : 1240 - Tolerance 1/min : +- 10
Tolerance cm3/1000 strokes : 5.0	rack travel mm : 0.85
Check tolerance cm3/1000s. : 7.0	- Tolerance mm : +- 0.55 - Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1255 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE	- - control lever - position degree : 73.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	- tolerance degree : +- 4.0 - Setting point w/out bumper spring
governor spring pre-tension click setting x : 4.75	- Rated speed rpm : 300 - rack travel mm : 5.00
	- Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 100 -
Rated speed rpm : 1100 + Aneroid pressure + Pa : -	- CRT mm min. : > 19.50 - - Testing:
Del. quantity cm3/1000 strokes : 59.0	- Rated speed rpm : 300
Tolerance cm3/1000 strokes : + 0.5	- rack travel mm : 5.50 - Tolerance mm : +- 0.10
Check tolerance cm3/1000s. : + 1.5 Spreed Tolerance cm3/1000 strokes : 2.0	rack travel mm : 2.00 Rated speed rpm : 380 Tolerance 1/min : +- 30
Check tolerance cm3/1000s. : 5.0	TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 9.60 Tolerance mm : +- 0.05

600 Rated speed rpm 9.60 rack travel mm Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 600 Rated speed rpm Del. quantity

cm3/1000 strokes : 47.0

Tolerance

cm3/1000 strokes : +- 1.5 Check tolerance

2.5 cm3/1000s.

Spreed Tolerance

cm3/1000 strokes : 4.0

Check tolerance cm3/1000S.

7.0

2.0

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 14.75 : +- 0.25 Tolerance mm

Tolerance

cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : **←** 10.0

LOW IDLE

Rated speed rpm : 300

5.50 Rack travel in mm : Tolerance mm 0.10

Del. quantity

12.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +-Check tolerance cm3/1000s. 3.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance

7.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 05.09.96

Test oil

: ISO 4113

Combination No. : 0 402 066 703

Injection pump

Pump designation : PES6P110A120RS3357

EP type number : 0 412 016 754

Governor

Governer design. : RSV550...1100P5A612

Governer no. : 0 421 833 499

Cust. part No. : 3927334

Customer-spec. information

Customer : CDC

Motor

: 6CTA ELITE

Power KW

: 208.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

208.5

Tolerance bar

: ← 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter :

x length mm :

3.0 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : +- 1.0

Prestroke mm 3.60 : +- 0.05

Tolerance mm Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

°NW after s.o.d. : 8.50

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 201.0	+ Aneroid pressure + hPa : 1800 + Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 201.0
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : + 3.0	+ cm3/1000S. : +- 3.0 + Spreed
Spreed	+ Tolerance + cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	+ Check tolerance + cm3/1000s. : 7.5
Check tolerance cm3/1000S. : 7.5	CONTROL LEVED
	+ CONTROL LEVER
Rated speed rpm : 550	control lever position degree : 99.0 tolerance degree : + 4.0
Rack travel in mm : 6.40	T toterance degree . T 4.0
Tolerance mm : +- 0.20	T RATED SPEED
Del. quantity	+ rack travel mm : 12.20
cm3/1000 strokes : 29.5	Rated speed rpm : 1165
Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : +- 2.0	
Check tolerance	rack travel mm : 6.40
cm3/1000s. : +- 4.5	Rated speed rpm : 1230
Spreed	+ Tolerance 1/min : + 5
Tolerance	1 Total and 17 mm.
cm3/1000 strokes : 6.0	rack travel mm : 0.85
Check tolerance	+ Tolerance mm : +- 0.55
cm3/1000s. ; 9.0	Rated speed rpm : 1375
CIII37 (UUU3. , 9.U	T Nateu speed (piii . 1515
	rack travel mm : 6.40
(D) CETTING OF THISCOTION DUMP	
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1235 + Tolerance 1/min : +- 15
WITH GOVERNOR	Toterance Dimin : +- 13
	†
	<u>†</u>
CHARLE OF ECAL DOCUTION	†
GUIDE SLEEVE POSITION	LOU THE
	+ LOW IDLE
control layer	I
control lever	t control lever
position degree : - 3	
Rated speed rpm : 800	+ position degree : 77.0
Bardy Americal Control of Control	tolerance degree : +- 4.0
Rack travel in mm : 0.50	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Tolerance mm : +- 0.20	+ Control lever difference
	Grad : 22.0 + tolerance degree : +- 6.0
governor spring	tolerance degree : +- 6.0
pre-tension 7.05	
click setting x : 3.25	Setting point w/out bumper spring
	T Pated speed now . SEO
FULL LOAD DELTUEDY AT FULL LOAD CTOP	+ Rated speed rpm : 550
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.90
Data diamend man 4400	+ Tolerance mm : +- 0.10
Rated speed rpm : 1100	Part of annual 200
	+ Rated speed rpm : 100

CRT mm min. : < 19.00 Testina: **55**0 Rated speed rpm 6.40 rack travel mm : : + - 0.20Tolerance mm TORQUE CONTROL 1100 Rated speed rpm 13.25 rack travel mm : Tolerance mm : +- 0.05 750 Rated speed rpm : ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 600 Pressure hPa 1800 600 Rated speed rpm Pressure hPa 11.30 rack travel mm Tolerance mm : + - 0.20**MEASUREMENT** Rated speed rpm 600 1265 Pressure hPa rack travel mm 12.70 : + 0.20Tolerance mm 875 Pressure hPa rack travel mm 11.80 Tolerance mm : + 0.20FUEL DELIVERY CHARACTERISTICS Aneroid pressure 600 Rated speed rpm : Del. quantity

STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm : 21.00 Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 165.0 Tolerance cm3/1000 strokes : +- 20.0Check tolerance cm3/1000s. : +- 25.0 LOW IDLE 550 Rated speed rpm : Rack travel in mm : 6.40 : +- 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 29.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 6.0

End of test specification sheet

9.0

Check tolerance cm3/1000s.

Tolerance

Check tolerance cm3/1000s.

cm3/1000 strokes : 152.0

1.0

3.0

: +-

cm3/1000 strokes : +-

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.04.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 066 709

Injection pump

Pump designation : PES6P120A120RS3358 EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1100P0A632

: 0 421 833 539 Governer no.

Cust. part No. : 3929602

Customer-spec. information

: CDC Customer

: 6BTA ELITE Motor

Power KW : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : **←** 2.0

: 2 417 413 093 Overflow valve

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0 x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85 : **←** 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

*NW after s.o.d. : 6.75 Tolerance : \leftarrow 0.50

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.20

Tolerance mm : \leftarrow 0.05

Dal manhiba	Anamaid processes
Del. quantity cm3/1000 strokes : 138.5	- Aneroid pressure - hPa : 1500 - Del. quantity
Tolerance cm3/1000 strokes : +- 1.0	- cm3/1000 strokes : 138.5 - Tolerance
Check tolerance	- cm3/1000 strokes : +- 1.0 - Check tolerance
cm3/1000s. : +- 3.0	- cm3/1000s. : +- 3.0 - Spreed
Spreed	- Tolerance - cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	- Check tolerance - cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	
	•
Rated speed rpm : 475	control lever position degree : 96.0 tolerance degree : +- 4.0
Rack travel in mm: 5.50	
Tolerance mm : + 0.20	RATED SPEED
Del. quantity	rack travel mm : 10.20
cm3/1000 strokes : 24.5	Rated speed rpm : 1145 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	. Total ance minima.
Check tolerance	rack travel mm : 5.70
cm3/1000s. : + 4.5	Rated speed rpm : 1230
Spreed	Tolerance 1/min : +- 5
Tolerance + 7/4000 - +	
cm3/1000 strokes : 6.0 + Check tolerance +	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000s. : 9.0	Rated speed rpm : 1400
(D) OFFICE OF THE FORM	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
+	
<u> </u>	
GUIDE SLEEVE POSITION	control lever
I	position degree : 78.0 tolerance degree : +- 4.0
control lever	. The second sec
position degree : -3	Control lever difference
Rated speed rpm : 800	Grad : 15.0
1	tolerance degree : +- 4.0
Rack travel in mm: 0.50 + Tolerance mm: + 0.20	Setting point w/out bumper spring
governor spring	Rated speed rpm : 475
pre-tension +	rack travel mm : 5.00
click setting x : 4.25	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
+	CRT mm min. : < 19.00
Rated speed rpm : 1100	Testing
+	Testing:

Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min	: 5.50 : ← 0.20 : 2.00 : 630	+ + + + + + +	Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 12.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 11.20 : + 0.05 : 750 : 12.00	+++++++++++++++++++++++++++++++++++++++	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 96.5
ANEROID/ALTITUDE COMPENSATOR TEST			STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm	: 100 : 21.00
SETTING		1	Del. quantity cm3/1000 strokes	
Rated speed rpm Pressure hPa	: 500 : 1500	 	Tolerance cm3/1000 strokes Check tolerance	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : − : 9.10 : ← 0.20	+	cm3/1000S.	: +- 25.0
MEASUREMENT		‡	LOW IDLE	
Rated speed rpm	: 500	1	Rated speed rpm	: 475
Pressure hPa rack travel mm Tolerance mm	: 975 : 11.50 : + 0.20	<u> </u>	Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: 0.20
Pressure hPa	: 545	Ŧ	Tolerance	
rack travel mm Tolerance mm	: 9.85 : +- 0.20	† † †	cm3/1000 strokes Check tolerance cm3/1000S. Spreed	: +- 2.0 : +- 4.5
FUEL DELIVERY CHA	RACTERISTICS		Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 6.0 : 9.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.			End of test speci	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 05.08.98 : ISO 4113

Combination No. : 0 402 076 823

Injection pump

Pump designation : PES6P120A720RS3352

EP type number : 0 412 026 780

Governor

Governer design. : RSV400...1100P2A599

: -10

Governer no.

: 0 421 833 620

Cust. part No. : RE502438

Customer—spec. information

Customer

: DEERE

Motor

: 6081AF001

Power KW

: 149.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : x length mm :

3.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm 3.60 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

*NW after s.o.d. : 6.50 Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel 14.00 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

+	
Rack travel in mm : 11.55 Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 133.5	Rated speed rpm : 1100 Aneroid pressure hPa : 900
Tolerance cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 133.5 Tolerance
Check tolerance cm3/1000S. : + 3.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	
	CONTROL LEVER
Rated speed rpm : 400	control lever position degree : 94.0
Rack travel in mm: 6.00 + Tolerance mm: + 0.10 + Del. quantity	tolerance degree : +- 4.0 RATED SPEED
cm3/1000 strokes : 26.0 + Tolerance + cm3/1000 strokes : + 2.0 +	rack travel mm : 10.50 Rated speed rpm : 1160 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : + 4.5	rack travel mm : 4.00 Rated speed rpm : 1215
Tolerance + cm3/1000 strokes : 6.0 +	Tolerance 1/min : +- 5 rack travel mm : 0.85
Check tolerance cm3/1000s. : 8.0	Tolerance mm : +- 0.55 Rated speed rpm : 1350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	
control lever position degree : -3 Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 70.0 tolerance degree : +- 4.0
Tolerance mm : + 0.20 + governor spring +	Setting point w/out bumper spring
pre-tension click setting x : 4.50	Rated speed rpm : 400 rack travel mm : 5.50 Tolerance mm : +- 0.10

Rated speed rpm CRT mm min. Testing: Rated speed rpm rack travel mm Tolerance mm	: > 19.00 : 400 : 6.00	Aneroid pressure hPa : 900 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 11.55 : ← 0.05 : 700 : 12.00	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 94.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000S. : +- 4.0
COMPENSATOR TEST		STARTING FUEL DELIVERY
SETTING		+ Rated speed rpm : 100
Rated speed rpm Pressure hPa	: 500 : 900	rack travel mm : 21.00 Tolerance mm : +- 0.50 Del. quantity
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 9.90 : + 0.20	cm3/1000 strokes : 105.0 + Tolerance + cm3/1000 strokes : +- 20.0 + Check tolerance - cm3/1000s. : +- 25.0
MEASUREMENT		+
Rated speed rpm		LOW IDLE
Pressure hPa rack travel mm Tolerance mm	: 575 : 11.00 : + 0.20	Rated speed rpm : 400 Rack travel in mm : 6.00
Pressure hPa	: 360	→ Tolerance mm : +- 0.10
rack travel mm Tolerance mm	: 10.40 : +- 0.05	+ Del. quantity + cm3/1000 strokes : 26.0 + Tolerance
Start interlock		
Rated speed rpm	: > 100	+ cm3/1000s. : +- 4.5 + Spreed + Tolerance
Check		→ cm3/1000 strokes : 6.0
speed 1/min	: > 80	+ Check tolerance - cm3/1000S. : 8.0
FUEL DELIVERY CHA	ARACTERISTICS	Ţ

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 05.08.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 076 824

Injection pump

Pump designation : PES6P120A720RS3352 EP type number : 0 412 026 780

Governor

Governer design. : RSV400...1100P2A599

: -11

: 0 421 833 621 Governer no.

Cust. part No. : RE502439

Customer-spec. information Customer : DEERE : 6081AF001 Motor

: 149.0 Power KW

TEST BENCH REQUIREMENTS

: 4.2 Inlet line

Test oil inlet

temp. °C Tolerance °C : +- 2.0

: 1 457 413 010 Overflow valve

Inlet press. bar :

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter : 3.0

: 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 3.60 : +- 0.05Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

°NW after s.o.d. : 6.50 : +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel 14.00 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

1	
Rack travel in mm : 11.55 Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 133.5	Rated speed rpm : 1100 Aneroid pressure hPa : 900
Tolerance cm3/1000 strokes : +- 1.0	Del. quantity cm3/1990 strokes : 133.5 Tolerance
Check tolerance cm3/1000s. : +- 3.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	. 0.5
	CONTROL LEVER
Rated speed rpm : 400	control lever position degree : 94.0
Rack travel in mm : 6.00 + Tolerance mm : + 0.10 + Del. quantity	tolerance degree : +- 4.0 RATED SPEED
cm3/1000 strokes : 26.0 + Tolerance + cm3/1000 strokes : + 2.0 + -	rack travel mm : 10.50 Rated speed rpm : 1160 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : + 4.5	rack travel mm : 4.00
Spreed + Tolerance + cm3/1000 strokes : 6.0 +	Rated speed rpm : 1215 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : 8.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1350
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	
control lever position degree : -3 Rated speed rpm : 800	LOW IDLE
Rack travel in mm: 0.50	position degree : 70.0 tolerance degree : + 4.0
governor spring	Setting point w/out bumper spring
pre-tension click setting x : 4.50	Rated speed rpm : 400 rack travel mm : 5.50 Tolerance mm : + 0.10

Rated speed rpm CRT mm min. Testing: Rated speed rpm rack travel mm Tolerance mm	: > 19.00	Aneroid pressure hPa : 900 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: 11.55 : + 0.05 : 700 : 12.00	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 94.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0
SETTING Rated speed rpm Pressure hPa Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm	: 900 : 500 : - : 9.90 : +- 0.20	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : + 0.50 Del. quantity cm3/10/00 strokes : 105.0 Tolerance cm3/10/00 strokes : + 20.0 Check tolerance cm3/10COS. : + 25.0
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Check speed 1/min	: 575 : 11.00 : +- 0.20 : 360 : 10.40 : +- 0.05	Rated speed rpm : 400 Rack travel in mm : 6.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0 Rate of the constraint of the c

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Fdition

: 04.08.98

Test oil

: ISO 4113

Combination No. : 0 401 848 813

Injection pump

Pump designation : PE8P110A320LS3846-2

EP type number : 0 411 818 725

Governor

Governer design. : RQ300/1050PA187-30

Governer no. : 0 421 801 552

Cust. part No. :

Customer-spec. information

Customer : MB-NFZ

Motor

: 04442

Power KW

: 195.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: **←** 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing

: 0-45-90-135-180

Tolerance

: -225-270-315 : +- 0.50

Check

tolerance °NW

: +- 0.75

Start of delivery mark

Tolerance

: +- 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.95

Tolerance mm : \leftarrow 0.05

guide cleeve
guide sleeve travel mm : 6.00
Tolerance mm : +- 0.10
Rated speed rpm : 500
guide sleeve
travel mm : 7.00
Tolerance mm : +- 0.10
D. A. d
Rated speed rpm : 1270
guide sleeve travel mm : 11.50
Tolerance mm : +- 0.50
rocer arise min
GUIDE SLEEVE POSITION
control lever
position degree : - 1 Rated speed rpm : 650
Rated speed rpin : 650
Rack travel in mm : 13.50
Tolerance mm : + 0.40
FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 1050
Aneroid pressure
hPa : - Del. quantity
cm3/1000 strokes : 115.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000s. : +- 3.5
cm3/1000s. : +- 3.5 Spreed
cm3/1000S. : +- 3.5 Spreed Tolerance
cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5
cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance
cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5
cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance
<pre>cm3/1000S. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000S. : 13.0</pre> RATED SPEED
cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000s. : 13.0 RATED SPEED rack travel mm : 10.90
cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000s. : 13.0 RATED SPEED rack travel mm : 10.90 Rated speed rpm : 1095
cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000s. : 13.0 RATED SPEED rack travel mm : 10.90
cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000s. : 13.0 RATED SPEED rack travel mm : 10.90 Rated speed rpm : 1095 Tolerance 1/min : +- 5
<pre>cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000s. : 13.0 RATED SPEED rack travel mm : 10.90 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00</pre>
cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000s. : 13.0 RATED SPEED rack travel mm : 10.90 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1185
<pre>cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000s. : 13.0 RATED SPEED rack travel mm : 10.90 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00</pre>
<pre>cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000s. : 13.0 RATED SPEED rack travel mm : 10.90 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : +- 15</pre> rack travel mm : 1.00
cm3/1000s. : + 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 8.5 Check tolerance : 13.0 RATED SPEED : 10.90 Rated speed rpm : 1095 : 1095 Tolerance 1/min : + 5 : 4.00 Rated speed rpm : 1185 : 15 rack travel mm : + 15 : 1.00 rack travel mm : + 1.00 : 1.00 Tolerance mm : + 1.00
<pre>cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 Check tolerance cm3/1000s. : 13.0 RATED SPEED rack travel mm : 10.90 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : +- 15</pre> rack travel mm : 1.00
cm3/1000s. : + 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 8.5 Check tolerance : 13.0 RATED SPEED : 10.90 Rated speed rpm : 1095 : 1095 Tolerance 1/min : + 5 : 4.00 Rated speed rpm : 1185 : 15 rack travel mm : + 15 : 1.00 rack travel mm : + 1.00 : 1.00 Tolerance mm : + 1.00
cm3/1000s. : + 3.5 Spreed Tolerance cm3/1000 strokes : 8.5 8.5 Check tolerance : 13.0 RATED SPEED : 10.90 Rated speed rpm : 1095 : 1095 Tolerance 1/min : + 5 : 4.00 Rated speed rpm : 1185 : 15 rack travel mm : + 15 : 1.00 rack travel mm : + 1.00 : 1.00 Tolerance mm : + 1.00

LOW IDLE

Setting point w/out bumper spring

200 Rated speed rpm

CRT mm min. : > 9.20

Testing:

300 Rated speed rpm 7.50 rack travel mm : +- 0.10 Tolerance mm

rack travel mm 2.00 Rated speed rpm 410 Tolerance 1/min : +- 20

TORQUE CONTROL

1050 Rated speed rpm : rack travel mm 11.95 : + - 0.05Tolerance mm

600 Rated speed rpm 11.95 rack travel mm : +- 0.20 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 600 Rated speed rpm

Del. quantity cm3/1000 strokes : 117.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

5.5 cm3/1000s.

Spreed

Tolerance

11.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 14.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 140.0

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

: +- 14.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 7.50 Tolerance mm : +-0.10

Del. quantity

cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +-5.5

Spreed

Tolerance cm3/1000 strokes : 6.5

Check tolerance

cm3/1000s. 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 04.08.98

Test oil

: ISO 4113

Combination No. : 0 402 036 757A

Injection pump

Pump designation : PES6P120A720/3LS3255

: -3

EP type number : 0 412 026 774

Governor

Governer design. : RQV300...1000PA876

: -12

Governer no.

: 0 421 813 897

Cust. part No. : 51.11103-7615

Customer-spec. information

Customer : MAN

Motor

: D2866L0H24

Power KW

: 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

208.5

Tolerance bar : \leftarrow 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : \leftarrow 1.0

Prestroke mm

: +- 0.05 Tolerance mm

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 15.00

Tolerance mm : \leftarrow 0.50

3.75

Firing order

: 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300

Tolerance

: +- 0.30

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm :

700

Rack travel in mm : 13.90

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 206.0

Tolerance cm3/1000 strokes : +- 1.0	<pre>+ guide sleeve + travel mm : 2.47 + Tolerance mm : + 0.25</pre>
Check tolerance cm3/1000s. : + 4.0	Rated speed rpm : 500
Spreed	+ travel mm : 3.63 + Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : 8.0	Rated speed rpm : 1270 guide sleeve
Check tolerance cm3/1000s. : 12.0	travel mm : 13.50 Tolerance mm : +- 0.50
	GUIDE SLEEVE POSITION
Rated speed rpm : 300	†
Rack travel in mm : 5.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 20.0	control lever position degree : - 1 Rated speed rpm : 1095
Tolerance cm3/1000 strokes : +- 3.0 Check tolerance	Rack travel in mm : 64.38 Tolerance mm : + 1.30
cm3/1000s. : +- 6.0 Spreed Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 700 Aneroid pressure
cm3/1000s. : 12.0	+ hPa : 1200 + Del. quantity
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ cm3/1000 strokes : 206.0 + Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance
GUIDE SLEEVE TRAVEL	cm3/1000s. : +- 4.0 Spreed
Rated speed rpm : 1059 guide sleeve	+ Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
travel mm : 10.14 Tolerance mm : +- 0.25	+ cm3/1000s. : 12.0
Rated speed rpm : 300 guide sleeve	CONTROL LEVER
travel mm : 1.69 Tolerance mm : + 0.25	control lever position degree : 303.0
Rated speed rpm : 793 guide sleeve	tolerance degree : + 4.0
travel mm : 6.88 Tolerance mm : +- 0.25	+ RATED SPEED + rack travel mm : 12.90 + Rated speed rpm : 1053
Rated speed rpm : 318 guide sleeve	Tolerance 1/min : +- 8
travel mm : 1.89 Tolerance mm : +- 0.25	+ rack travel mm : 4.00 + Rated speed rpm : 1155 + Tolerance 1/min : + 15
Rated speed rpm : 368	T Total ance Milling : — 15

rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 1300
LOW IDLE	
control lever position degree tolerance degree	: 261.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 6.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.00 : +- 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.90 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.90 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 13.95 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 11.75 : + 0.05
MEASUREMENT	
Rated speed rpm	: 500

Pressure hPa rack travel mm Tolerance mm	: 120 : 12.05 : + 0.05	
Start interlock		
Rated speed rpm Rated speed rpm		
Check speed 1/min Check	: > 80	
speed 1/min	: < 240	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure		
hPa Rated speed rpm	: 1200 : 1000	
Del. quantity cm3/1000 strokes	: 213.0	
Tolerance cm3/1000 strokes	: +- 2.0	
Check tolerance cm3/1000s.	: 5.0	
Aneroid pressure		
hPa Rated speed rpm	: - : 500	
Del. quantity cm3/1000 strokes		
Tolerance cm3/1000 strokes	: 1.0	
Check tolerance cm3/1000S.	: +- 4.0	
STARTING FUEL DEL	IVERY	
Rated speed rpm Del. quantity	: 100	
cm3/1000 strokes Tolerance	: 230.0	
cm3/1000 strokes Check tolerance	: +- 10.0	
cm3/1000\$.	: ← 14.0	
LOW IDLE		
Rated speed rpm	: 300	

Presuc. ∋ FPa : 450
raci in olimm : 13.25
Tolerance in : + 0.15

Rack travel in mm Tolerance mm	: :	+-	5.00 0.10
Del. quantity cm3/1000 strokes	:		20.0
Tolerance cm3/1000 strokes	:	+-	3.0
Check tolerance cm3/1000S.	:	+-	6.0
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:		8.0
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.08.98 Test oil : ISO 4113

Combination No. : 0 402 046 884

Injection pump

Pump designation : PES6P110A320RS3329 EP type number : 0 412 016 743

Governor

Governer design. : RQ325...1250PA1396

Governer no. : 0 421 801 838

Cust. part No. : 1351855/0

Customer—spec. information

Customer : DAF

Motor : NS177M (CBP)

Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 140 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 2.0

x inside diameter: 6.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : + 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.80 Tolerance mm : +- 0.05

		+ guide sleeve
Del. quantity cm3/1000 strokes :	154.5	travel mm : 3.48 Tolerance mm : + 0.10
Tolerance cm3/1000 strokes :	+ 1.0	Rated speed rpm : 590 guide sleeve
Check tolerance cm3/1000s. :	+ 4.0	travel mm : 6.00 Tolerance mm : + 0.10
Spreed		Rated speed rpm : 1460 guide sleeve travel mm : 11.50
Tolerance cm3/1000 strokes :	8.0	Tolerance mm : + 0.50
Check tolerance cm3/1000s. :	12.0	GUIDE SLEEVE POSITION
CIIIS7 10003.		Rated speed rpm : 1337
Rated speed rpm :	325	Rack travel in mm: 11.80 Tolerance mm: + 1.30
·		Total and min . 4 - 1.30
Del. quantity	+- 0.10	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : Tolerance	26.0	+ Rated speed rpm : 1000 + Aneroid pressure
cm3/1000 strokes :	+- 3.0	+ hPa : 1500
Check tolerance cm3/1000s. :	+- 6.0	+ Del. quantity + cm3/1000 strokes : 154.5
Spreed Tolerance		+ Tolerance + cm3/1000 strokes : +- 1.0
cm3/1000 strokes : Check tolerance	4.0	+ Check tolerance + cm3/1000s. : +- 4.0
cm3/1000s. :	8.0	Spreed
		Tolerance cm3/1000 strokes : 8.0
(B) SETTING OF INJE	CTION PUMP	+ Check tolerance + cm3/1000S. : 12.0
		1
GUIDE SLEEVE TRAVEL		
Rated speed rpm :	1292	+ CONTROL LEVER +
guide sleeve travel mm :	6.36	tontrol lever position degree : 94.0
	+ 0.15	tolerance degree : +- 4.0
	325	RATED SPEED
guide sleeve travel mm :	1.99	rack travel mm : 11.80 Rated speed rpm : 1290
	+- 0.20	+
Rated speed rpm : guide sleeve	1250 -	+ rack travel mm : 4.00 + Rated speed rpm : 1365 + Tolerance 1/min : +- 15
travel mm :	6.00	Check
	+ 0.10 ·	speed 1/min : +- 20
Rated speed rpm :	426 -	rack travel mm : 0.50 Tolerance mm : +- 0.50

Rated speed rpm : 1500 LOW IDLE control lever position degree : 71.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 225 CRT mm min. : > 5.77 Testina: Rated speed rpm : 325 rack travel mm : 4.40 : +- 0.10 Tolerance mm rack travel mm : 2.00 Rated speed rpm : 414 Tolerance 1/min : + 20 TORQUE CONTROL Rated speed rpm : 1000 12.80 rack travel mm : : +- 0.05 Tolerance mm Rated speed rpm : 1250 rack travel mm : 12.80 : + 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 600 Pressure hPa : 1500 rack travel mm 12.80 : **←** 0.05 Tolerance mm Rated speed rpm : 600 Pressure hPa 7.10 rack travel mm : **←** 0.20 Tolerance mm

600

rack travel mm : 11.40
Tolerance mm : + 0.05

Pressure hPa : 110
rack travel mm : 8.60
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 1000
Del. quantity
cm3/1000 strokes : 93.0
Tolerance
cm3/1000 strokes : +- 1.0

: **←** 4.0

Check tolerance

cm3/1000S.

LOW IDLE

Rated speed rpm : 325 Rack travel in mm: 4.40 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000S. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance : cm3/1000S. 8.0

End of test specification sheet

MEASUREMENT

Rated speed rpm :

Pressure hPa : 310

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 04.08.98 Edition Test oil : ISO 4113

Combination No. : 0 402 076 821

Injection pump

Pump designation : PES6P120A720RS3340 EP type number : 0 412 026 773

Governor

Governer design. : RSV650...1050P8A566

: -6

Governer no. : 0 421 833 615

Cust. part No. :

Customer—spec. information

: NH Customer

Motor : EP 040 B : 213.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity

110 min. L/h : Tolerance l/h: +- 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.60 : + 0.05

Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

: **←** 0.75 tolerance °NW

Start of delivery blocking

: + 0.10Tolerance

Check

tolerance °NW : +- 0.30

Barrel no. : 1

	+
BASIC SETTING	governor spring pre-tension
	click setting $x : 2.50$
Rated speed rpm : 1025	
Rack travel in mm: 13.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.05	Rated speed rpm : 1025
Del. quantity	Aneroid pressure : 2000
cm3/1000 strokes : 204.0	Del. quantity cm3/1000 strokes : 204.0
Tolerance	Tolerance
cm3/1000 strokes : +- 1.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance - cm3/1000s. : + 6.0 -	cm3/1000s. : + 6.0 Spreed
	Tolerance
Spreed -	cm3/1000 strokes : 5.0 Check tolerance
Tolerance 5.0	cm3/1000s. : 9.0
cm3/1000 strokes : 5.0 -	
Check tolerance - cm3/1000s. : 9.0 -	CONTROL LEVER
	control lever
	position degree : 93.0
Rated speed rpm : 650	tolerance degree : +- 4.0
Rack travel in mm : 4.50	
Tolerance mm : + 0.10 - Del. quantity -	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 23.0 -	Rated speed rpm : 1067 rack travel mm : 12.20
cm3/1000 strokes : +- 3.0	}
Check tolerance - cm3/1000s. : +- 6.0	- Rated speed rpm : 1097 - Tolerance 1/min : +- 5
Spreed	rack travel mm : 4.00
Tolerance cm3/1000 strokes : 8.0	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000S. : 12.0 -	- Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP	- - Rated speed rpm : 1068
WITH GOVERNOR -	rack travel mm : 12.20
	- Rated speed rpm : 1098
GUIDE SLEEVE POSITION	- Tolerance 1/min : +- 5 - rack travel mm : 4.00
SOLDE SEEEVE 1 SOLITOIA	-
control lever	- rack travel mm : 0.85 - Tolerance mm : +- 0.55
position degree : -3	
Rated speed rpm : 800 -	- - Rated speed rpm : 1069
Rack travel in mm : 0.50 - Tolerance mm : + 0.20 -	- Rated speed rpm : 1069 - rack travel mm : 12.20
rocerance imii : TO 0.20	•

Tolerance 1/min : +-	1099 5 4.00	rack travel mm Rated speed rpm	
rack travel mm : Tolerance mm : +-	0.85	TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 13.20
Rated speed rpm : rack travel mm :	1070 12.20	Rated speed rom	. 750
Rated speed rpm : Tolerance 1/min : +- rack travel mm :	5 +	rack travel mm Tolerance mm Rated speed rpm	
rack travel mm : Tolerance mm : +-	0.85	rack travel mm Tolerance mm	: 15.00 : +- 0.10
Rated speed rpm : rack travel mm :	1071 12.20	ANEROID/ALTITUDE COMPENSATOR TEST	
Rated speed rpm : Tolerance 1/min : +- rack travel mm :	5 +	SETTING Rated speed rpm	: 500
rack travel mm : Tolerance mm : +-		Pressure hPa rack travel mm Tolerance mm	: 2000 : 15.00
Rated speed rpm : ' rack travel mm : '	12.20	Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 7.90 : +- 0.15
Rated speed rpm : ' Tolerance 1/min : +- rack travel mm :	5 +	MEASUREMENT	
rack travel mm : Tolerance mm : +-		Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 980
LOW IDLE	‡		
control lever position degree : tolerance degree : +-	74.0	Start interlock Rated speed rpm	: > 100
Setting point w/out bump	+	Check speed 1/min	: > 80
- ,	550 4.00	FUEL DELIVERY CHAR	RACTERISTICS
Testing:	‡	Aneroid pressure	: 2000
Rated speed rpm : 6 rack travel mm : Tolerance mm : +-	4.50	Rated speed rpm Del. quantity cm3/1000 strokes	: 750

Tolerance cm3/1000 strokes Check tolerance cm3/1000s. rack travel mm Tolerance mm	: ← 3.0 : ← 6.0 : 15.00 : ← 0.10
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 89.0 : + 1.0 : + 4.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.50 : + 0.50 : 135.0
LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 650 : 4.50 : + 0.10 : 23.0 : + 3.0 : + 6.0 : 8.0 : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03.08.98 Edition Edition : 03.08.98 Test oil : ISO 4113

Combination No. : 0 402 086 704

Injection pump

Pump designation : PES6P100B321RS3388 EP type number : 0 412 006 714

Governor

Governer design. : RSV400...1125P0A699

Governer no. : 0 421 833 625

Cust. part No. : 51.11103-7607

Customer-spec. information

Customer : MAN motor Power KW : DO826 LE531

: 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity
min. L/h : 150
Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.30 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.50Tolerance mm : + 0.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Tolerance : +- 0.10

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 925

	1	
Rack travel in mm Tolerance mm	: 14.10 : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes	: 174.0	Rated speed rpm : 925 Aneroid pressure hPa : 1500
Tolerance cm3/1000 strokes	· + 1.0	Del. quantity cm3/1000 strokes : 174.0 Tolerance
Check tolerance cm3/1000s.	: +- 4.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Spreed		Spreed Tolerance
Tolerance cm3/1000 strokes	: 4.0	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000s.	: 6.0	
		CONTROL LEVER
Rated speed rpm	: 400	control lever position degree : 104.0
Rack travel in mm Tolerance mm Del. quantity	: 4.90 : ← 0.10	tolerance degree : +- 4.0 RATED SPEED
cm3/1000 strokes Tolerance	: 25.0 + : + 3.0 +	rack travel mm : 12.60 Rated speed rpm : 1175 Tolerance 1/min : +- 5
Check tolerance	: + 6.0	rack travel mm : 4.00 Rated speed rpm : 1265
Tolerance	: 3.5	Tolerance 1/min : + 15 rack travel mm : 0.85
	: 5.5	Tolerance mm : +- 0.55 Rated speed rpm : 1400
(B) SETTING OF INJE	ECTION PUMP	
	 	LOW IDLE
GUIDE SLEEVE POSITI	ION	control lever
	: - 3	position degree : 80.0 tolerance degree : +- 4.0
, , , ,	800	Setting point w/out bumper spring
Rack travel in mm : Tolerance mm :		Rated speed rpm : 400 rack travel mm : 4.40 Tolerance mm : +- 0.10
governor spring pre-tension click setting x	4.75	Testing:
	‡	Rated speed rpm : 400 rack travel mm : 4.90

Tolerance mm	: ← 0.10	+ Rated speed rpm : 1125 + Del. quantity
rack travel mm	: 2.00 · 500	cm3/1000 strokes : 161.0 Tolerance
Rated speed rpm Tolerance 1/min	: +- 30	cm3/1000 strokes : +- 3.0 Check tolerance
TORQUE CONTROL	. 025	İ
Rated speed rpm rack travel mm	: 14.10	Aneroid pressure
Tolerance mm	: + 0.05	+ hPa : 1500
100010100		+ Rated speed rpm : 700
Rated speed rpm	: 1125	rack travel mm : 14.15
rack travel mm Tolerance mm	: 13.60	rack travel mm : 14.15 Tolerance mm : +- 0.10 Del. quantity
Tolerance mm	: +- 0.05	<pre>→ Del. quantity</pre>
		+ cm3/1000 strokes : 187.0
Rated speed rpm	: 700	+ Tolerance
rack travel mm	: 14.15	+ cm3/1000 strokes : $+$ 3.0
Tolerance mm	: +- 0.10	+ Check tolerance
		+ cm3/1000s. : $+$ 6.0
Rated speed rpm rack travel mm Tolerance mm	: 1025	+
rack travel mm	: 13.95	
Tolerance mm	: +- 0.10	+ Aneroid pressure
		+ hPa : -
44155555 /41 955155		Rated speed rpm : 500
ANEROID/ALTITUDE		+ Del. quantity
COMPENSATOR TEST		+ cm3/1000 strokes : 91.0
		+ Tolerance + cm3/1000 strokes : +- 1.0
CETTING		Check tolerance
SETTING		- cm3/1000s. : +- 4.0
Dated creed rom	. 500	1 (1137 10003 4.0
Pressure hPa	. 1500 · 1500	I
rack travel mm	· 14 10	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: +- 0.15	
, , , , , , , , , , , , , , , , , , , ,		+
Rated speed rpm	: 500	+ Rated speed rpm : 100
Pressure hPa	: -	rack travel mm : 9.45
rack travel mm	: 9.45	+ Tolerance mm : +- 0.45
Tolerance mm	: +- 0.15	+ Del. quantity
		+ cm3/1000 strokes : 112.0
MEASUREMENT		+ Tolerance
	500	+ cm3/1000 strokes : +- 10.0
Rated speed rpm	: 500	+ Check tolerance
D	. 150	+ cm3/1000s. : +- 14.0
Pressure hPa	: 150 : 9.75	Ť
rack travel mm Tolerance mm		Ť
rocerance mm	. += 0.05	I
Pressure hPa	: 800	I LOW IDLE
rack travel mm		1
Tolerance mm		Rated speed rpm : 400
A THE THE THE	. 2	+
		Rack travel in mm : 4.90
		+ Tolerance mm : +- 0.10
FUEL DELIVERY CHA	ARACTERISTICS	+ Del. quantity
		- cm3/1000 strokes : 25.0
		+ Tolerance
Aneroid pressure		7/4000 1 7 0
		+ cm3/1000 strokes : +- 3.0
hPa	: 1500	+ cm3/1000 strokes : +- 3.0 +

Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 05.08.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 646 626

Injection pump

Pump designation : PE6P120A320RS7299 EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1076K

Governer no. : 0 421 815 357

Cust. part No. : 1280160/8

Customer-spec. information

Customer : DAF

: WS 268 M Motor : 268.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

1.5 Inlet press. bar : Tolerance bar : +- 0.1

Overflow quantity
min. L/h : 160
Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85 Tolerance mm : +- 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Start of delivery mark

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

980 Rated speed rpm :

Rack travel in mm : 13.55

Tolerance mm : \leftarrow 0.05

	1 guide aleeve
N.1	+ guide sleeve
Del. quantity	+ travel mm : 2.27
cm3/1000 strokes : 250.0	+ Tolerance mm : $+$ 0.25
	+
Tolerance	+ Rated speed rpm : 334
cm3/1000 strokes : +- 1.0	+ guide sleeve
	+ travel mm : 3.17
Check tolerance	+ Tolerance mm : +- 0.25
$cm3/1000s$. : \leftarrow 4.0	+
	+ Rated speed rpm : 390
Spreed	+ guide sleeve
	+ travel mm : 3.79
Tolerance	+ Tolerance mm : + 0.25
cm3/1000 strokes : 5.0	1
(m3/1000 3t1 0RC3 : 3.0	Rated speed rpm : 1310
Check tolerance	+ guide sleeve
cm3/1000s. : 9.0	travel mm : 13.50
CIII37 (0003 9.0	
**************************************	Tolerance mm : +- 0.50
	†
Rated speed rpm : 275	+ GUIDE SLEEVE POSITION
	+
Rack travel in mm: 4.80	+
Tolerance mm : + 0.10	+ control lever
Del. quantity	→ position degree : - 1
cm3/1000 strokes : 17.0	+ Rated speed rpm : 1130
Tolerance	+
cm3/1000 strokes : +- 3.0	+ Rack travel in mm : 12.60
Check tolerance	+ Tolerance mm : + 1.30
cm3/1000S. : + 6.0	1
Spreed	
Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
	TOLE EDAD DELIVERY AT TOLE EDAD STOP
	I Pated speed rom · 980
Check tolerance	Rated speed rpm : 980
	+ Aneroid pressure
Check tolerance	+ Aneroid pressure + hPa : 1500
Check tolerance cm3/1000s. : 12.0	+ Aneroid pressure + hPa : 1500 + Del. quantity
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0
Check tolerance cm3/1000s. : 12.0	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance
Check tolerance cm3/1000S. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000S. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20 Rated speed rpm : 275	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20 Rated speed rpm : 275 guide sleeve	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20 Rated speed rpm : 275 guide sleeve travel mm : 2.14	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20 Rated speed rpm : 275 guide sleeve	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : +0.20 Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : +0.15	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : +0.20 Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : +0.15 Rated speed rpm : 689	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 120.0
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : +0.20 Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : +0.15 Rated speed rpm : 689 guide sleeve	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20 Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : +0.20 Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : +0.15 Rated speed rpm : 689 guide sleeve	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20 Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.55
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20 Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.55 Rated speed rpm : 1042
Check tolerance cm3/1000s. : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20 Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 250.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.55

rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 1160 : + 15 : 0.70 : + 0.70
LOW IDLE	
control lever position degree tolerance degree	: 74.0 : +- 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 4.80 : +- 0.10
Rated speed rpm	: 275
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.05 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.10 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.70 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 980 : 13.70 : +- 0.10
ANEROID/ALTITUDE	

SETTING

Rated speed rpm	: 980
Pressure hPa	: 1500
rack travel mm	: 13.55
Tolerance mm	: + 0.05
Rated speed rpm	: 980
Pressure hPa	: -
rack travel mm	: 8.50
Tolerance mm	: + 0.10
MEASUREMENT	
Rated speed rpm	: 980
Pressure hPa	: 720
rack travel mm	: 12.25
Tolerance mm	: ← 0.05

Pressure hPa : 360 rack travel mm : 9.80 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	
hPa	: 1500
Rated speed rpm	: 750
Del. quantity	: 263.0
cm3/1000 strokes Tolerance	: 263.0
cm3/1000 strokes	: +- 2.0
Check tolerance	
cm3/1000s.	: +- 5.0
Spreed	
Tolerance	. 0.0
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
	, , , , ,
	
rack travel mm	: 12.10
Tolerance mm	: +- 0.10
	
Aneroid pressure	
hPa	: -
Rated speed rpm	: 600
Del. quantity cm3/1000 strokes	: 154.0
Tolerance	. 124.0
cm3/1000 strokes	: +- 1.0
Charle tal anomas	

Check tolerance

cm3/1000s. : +- 4.0

COMPENSATOR TEST

LOW IDLE

Rated speed rpm	:	275
Rack travel in mm Tolerance mm	: : +-	4.80 0.10
Del. quantity cm3/1000 strokes Tolerance	:	17.0
cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000S. Spreed	: +-	6.0
Tolerance cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.08.98 : ISO 4113

Combination No. : 0 402 646 706

Injection pump

Pump designation : PE6P120A320LS7929 EP type number : 0 412 626 978

Governor

Governer design. : RQ300/1050PA1395 Governer no. : 0 421 801 837

Cust. part No. : 0280745602

Customer-spec. information

Customer : MB-NFZ

: OM441LA - EURO I Motor

218.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : **←** 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 150 Tolerance L/h : ← 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.00 Tolerance mm : +- 1.00

Firing order : 6- 3- 5- 2- 4-

: 1

Phasing : 0- 60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance $^{\circ}NW$: + 0.75

Start of delivery mark

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.00

Tolerance mm : +- 0.05

		+ guide sleeve
Del. quantity		+ travel mm : 4.47
cm3/1000 strokes	: 197.0	+ Tolerance mm : + 0.10
Talanana		+ Rated speed rpm : 510
Tolerance cm3/1000 strokes	: +- 1.0	+ Rated speed rpm : 510 + guide sleeve
CIIIJ7 1000 STI OKES	1.0	travel mm : 6.00
Check tolerance		+ Tolerance mm : + 0.10
cm3/1000s.	: +- 4.0	+
O		Rated speed rpm : 1280
Spreed		f guide sleeve fravel mm : 11.50
Tolerance		+ Tolerance mm : +- 0.50
cm3/1000 strokes	: 5.0	+
Check tolerance	: 9.0	GUIDE SLEEVE POSITION
cm3/1000s.	; 9.0	Ī
		control lever
		position degree : 109
Rated speed rpm	: 300	+ Rated speed rpm : 800
Daala Americal des	. 4.50	Back travel in man : 30 00
Rack travel in mm Tolerance mm	: 6.50 : + 0.10	+ Rack travel in mm : 20.00 + Tolerance mm : +- 0.80
Del. quantity	0.10	Total ance may 0.00
cm3/1000 strokes	: 20.0	+
Tolerance		+ FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes	: ← 3.0	2050
Check tolerance cm3/1000s.	: +- 6.0	+ Rated speed rpm : 1050 + Aneroid pressure
Spreed	. 1- 0.0	+ hPa : 1000
Tolerance		+ Del. quantity
cm3/1000 strokes	: 8.0	+ cm3/1000 strokes : 197.0
Check tolerance	42.0	+ Tolerance
cm3/1000s.	: 12.0	+ cm3/1000 strokes : + 1.0 + Check tolerance
		- cm3/1000s. : +- 4.0
(B) SETTING OF IN.	JECTION PUMP	Spreed
WITH GOVERNOR		+ Tolerance
		+ cm3/1000 strokes : 5.0
CUITAG SI GENE TRAVE		+ Check tolerance + cm3/1000s. : 9.0
GUIDE SLEEVE TRAVE	EL .	† Clib/10005 9.0
Rated speed rpm	: 1108	+
guide sleeve		
travel mm	: 6.38	+ CONTROL LEVER
Tolerance mm	: ← 0.15	t control lever
Rated speed rpm	: 300	position degree : 95.0
guide sleeve	. 500	+ tolerance degree : + 4.0
travel mm	: 1.70	+
Tolerance mm	: ← 0.20	+ RATED SPEED
Dated speed non	: 1050	+ rack travel mm : 11.30 + Rated speed rpm : 1100
Rated speed rpm guide sleeve	: 1050	+ Tolerance 1/min : +- 5
travel mm	: 6.00	+
Tolerance mm	: +- 0.10	rack travel mm : 4.00
-	145	+ Rated speed rpm : 1190
Rated speed rpm	: 415	+ Tolerance 1/min : +- 15

rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 1300
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 8.70
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 6.50 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.00 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 13.00 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.40 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1000 : 13.00 : +- 0.10
Datad aread re-	. 500

MEASUREMENT Rated speed rpm : 500 350 Pressure hPa rack travel mm 10.00 : +- 0.05 Tolerance mm Pressure hPa 600 rack travel mm : 12.10 Tolerance mm : +- 0.20 Start interlock Rated speed rpm : > 170 Rated speed rpm : > 220 Check speed 1/min : > 150 Check speed 1/min : > 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure : 1000 Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 195.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 Aneroid pressure Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 138.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance

STARTING FUEL DELIVERY

cm3/1000s.

Rated speed rpm :

4.0

Rated speed rpm :

rack travel mm :

Pressure hPa

Tolerance mm

500

: +- 0.20

9.55

Del. quantity

cm3/1000 strokes : 200.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.50 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.08.98 Test oil : ISO 4113

Combination No. : 0 402 670 813

Injection pump

Pump designation : PE12P120A320LS7923

EP type number : 0 412 620 851

Governor

Governer design. : RSV375...950P0A691

Governer no. : 0 421 833 613

Cust. part No. : 0 270 740 802

Customer-spec. information

Customer : MB-NFZ
Motor : OM 444 LA
Power KW : 605.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 200 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240

: -285-300-345

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 600

1	
Rack travel in mm : 13.00	
Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity	Rated speed rpm : 600
cm3/1000 strokes : 276.0	Aneroid pressure hPa : 1050
Tolerance + cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 276.0
	Tolerance
Check tolerance + 4.0 +	cm3/1000 strokes : +- 1.0 Check tolerance
+	cm3/1000S. : + 4.0
Spreed	Spreed Tolerance
Tolerance	cm3/1000 strokes : 6.0
cm3/1000 strokes : 6.0	Check tolerance cm3/1000s. : 10.0
Check tolerance	
cm3/1000s. : 10.0	
	CONTROL LEVER
Rated speed rpm : 375	control lever
Rack travel in mm: 4.90	position degree : 91.0
Rack travel in mm: 4.90 + Tolerance mm: + 0.10 +	tolerance degree : +- 4.0
Del. quantity + cm3/1000 strokes : 17.0 +	ACCUMENT CONTRACTOR CETTING
cm3/1000 strokes : 17.0 + Tolerance +	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : +- 3.0 +- Check tolerance +-	Rated speed rpm : 978 Tolerance 1/min : +- 1
cm3/1000s. : + 6.0	rack travel mm : 13.00
Spreed + Tolerance +	Rated speed rpm : 1053
cm3/1000 strokes : 8.0	Tolerance 1/min : +- 4
Check tolerance + cm3/1000s. : 12.0 +	rack travel mm : 4.00
T	rack travel mm : 0.85
(B) SETTING OF INJECTION PUMP	Tolerance mm : + 0.55 Rated speed rpm : 1200
WITH GOVERNOR	Nated Speed Tpm . T200
<u> </u>	Rated speed rpm : 979
	Tolerance 1/min : +- 1 rack travel mm : 13.00
GUIDE SLEEVE POSITION +	rack travel mm : 13.00
Ţ.,	Rated speed rpm : 1054
control lever +	Tolerance 1/min : +- 4 rack travel mm : 4.00
position degree : -3 + Rated speed rpm : 800 +	
Rack travel in mm: 0.50 +	rack travel mm : 0.85
Tolerance mm : + 0.20 +	Tolerance mm : +- 0.55 Rated speed rpm : 1200
+	
governor spring + pre-tension +	Rated speed rpm : 980
click setting x : 3.50	Tolerance 1/min : +- 1
‡	rack travel mm : 13.00
'	

Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	rack travel mm : 2.00 Rated speed rpm : 405 Tolerance 1/min : +- 30
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55	SET IDLE AUXILIARY SPRING
Rated speed rpm	: 1200	rack travel mm : 2.00
Rated speed rpm Tolerance 1/min	: +- 1	TORQUE CONTROL Rated speed rpm : 600
rack travel mm		Rated speed rpm : 600 rack travel mm : 13.00 Tolerance mm : +- 0.05
Rated speed rpm Tolerance 1/min	: +- 4	Rated speed rpm : 940
rack travel mm		rack travel mm : 14.00 Tolerance mm : +- 0.10
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55	ANEROID/ALTITUDE
Rated Speed Tpill	. 1200	COMPENSATOR TEST
Rated speed rpm Tolerance 1/min	: +- 1	+ SETTING
rack travel mm	: 13.00	Rated speed rpm : 600 Pressure hPa : 1700
Rated speed rpm Tolerance 1/min		+ Pressure hPa : 1700 + rack travel mm : 14.00
rack travel mm		+ Tolerance mm : + 0.10 +
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55	+ Rated speed rpm : 600 + Pressure hPa : -
Rated speed rpm	: 1200	rack travel mm : 7.50 Tolerance mm : + 0.10
Rated speed rpm rack travel mm	: 983 : 13.00	2-stage LDA setting
Rated speed rpm	: 1058	Rated speed rpm : 600 Pressure hPa : 1050
Tolerance 1/min rack travel mm	: 	rack travel mm : 13.00
rack travel mm	: 0.85	+ MEASUREMENT
Tolerance mm Rated speed rpm	: ← 0.55 : 1200	Rated speed rpm : 600
		+ Pressure hPa : 550 - rack travel mm : 9.65
LOW IDLE		+ Tolerance mm : + 0.20
control lever		+ Pressure hPa : 750 + rack travel mm : 11.30
position degree tolerance degree		Tolerance mm : + 0.05 Pressure hPa : 1400
Testing:		+ Pressure hPa : 1400 + rack travel mm : 13.50 + Tolerance mm : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 375 : 4.90	+
iolerance mm	: +- 0.10	FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1700 hPa Rated speed rpm 940 Del. quantity cm3/1000 strokes : 270.0 Tolerance cm3/1000 strokes : +-1.5 Check tolerance cm3/1000S. 4.5 Spreed Tolerance cm3/1000 strokes 8.0 Check tolerance 12.0 cm3/1000S.

Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 138.0 Tolerance cm3/1000 strokes 1.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 275.0
Tolerance
cm3/1000 strokes : +- 15.0
Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 375

Rack travel in mm : 4.90
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 17.0
Tolerance
cm3/1000 strokes : + 3.0

cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.08.98 Test oil : ISO 4113

Combination No. : 0 402 678 836

Injection pump

Pump designation : PE8P120A320LS7844 EP type number : 0 412 628 860

Governor

Governer design. : RSV550...1050P0A672

Governer no. : 0 421 833 591

Cust. part No. : 0270746402

Customer-spec. information Customer : MB-NFZ Motor : 0M442LA Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 225
Tolerance l/h : +- 20.0

Test nozzle holde assembly : 1 688 901 105

Opening pressure

: 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.00 Tolerance mm : +- 1.00

Firing order : 8-7-2-6-3

: - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1030

1	
Rack travel in mm : 15.60 Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 270.0	Rated speed rpm : 1030 Aneroid pressure hPa : 1200
Tolerance cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 270.0 Tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	. 7.0
	CONTROL LEVER
Rated speed rpm : 550	control lever position degree : 88.0
Rack travel in mm: 4.00 + Tolerance mm: + 0.10 + Del. quantity	tolerance degree : +- 4.0
cm3/1000 strokes : 19.0 +	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : + 3.0 + Check tolerance cm3/1000s. : + 6.0 +	Rated speed rpm : 1070 Tolerance 1/min : +- 1 rack travel mm : 14.60
Spreed Tolerance	Rated speed rpm : 1110
cm3/1000 strokes : 8.0 + Check tolerance +	Tolerance 1/min : +- 4 rack travel mm : 4.00
cm3/1000s. : 12.0	rack travel mm : 0.85 Tolerance mm : + 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1200
GUIDE SLEEVE POSITION	Rated speed rpm : 1071 Tolerance 1/min : +- 1 rack travel mm : 14.60
control lever position degree : - 3 Rated speed rpm : 800	Rated speed rpm : 1111 Tolerance 1/min : +- 4 rack travel mm : 4.00
Rack travel in mm: 0.50 + Tolerance mm: + 0.20	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1200
governor spring pre-tension click setting x : 2.00	Rated speed rpm : 1072 Tolerance 1/min : +- 1 rack travel mm : 14.60

Rated speed rpm Tolerance 1/min	: + 4 +	Testing:
	: 4.00	Rated speed rpm : 550 rack travel mm : 4.00 Tolerance mm : +- 0.10
rack travel mm	: 0.85	rack travel mm : 4.00
rack travel mm Tolerance mm Rated speed rpm	: 1200	roterance nin . +- 0.10
Marca speca i piii	+	rack travel mm : 2.00
	+	Rated speed rpm : 570
Rated speed rpm :	: 1073 + : + 1 +	Tolerance 1/min : +- 30
Tolerance 1/min : rack travel mm	14.60	SET IDLE AUXILIARY SPRING
	+	
Rated speed rpm	: 1113 +	rack travel mm : 2.00
	: +- 4 : 4.00	
	1	TORQUE CONTROL
rack travel mm : Tolerance mm : Rated speed rpm :	: 0.85	Rated speed rpm : 1030 rack travel mm : 15.60 Tolerance mm : + 0.05
Tolerance mm :	: ← 0.55 +	rack travel mm : 15.60
Rated speed rpm :	: 1200 +	Tolerance mm : +- 0.05
	Ī	Rated speed rpm : 600
Rated speed rpm :	: 1074	rack travel mm : 15.60
Tolerance 1/min :	: +- 1 +	rack travel mm : 15.60 Tolerance mm : + 0.10
rack travel mm :	: 14.60 +	
Rated speed rpm :	. 1114	ANEROID/ALTITUDE
Tolerance 1/min :	+ 4	COMPENSATOR TEST
	: 4.00	
nack traval mm	. 0.85	SETTING
rack travel mm : Tolerance mm : Rated speed rpm :	+ 0.55	25111140
Rated speed rpm :	1200	Rated speed rpm : 450
	+	Rated speed rpm : 450 Pressure hPa : 1200
0.4 dd	1075	rack travel mm : 15.60
	: 1075 : +- 1	Tolerance mm : +- 0.10
Tolerance 1/min : rack travel mm :	14.60	Rated speed rpm : 450
	+	Pressure hPa : -
Rated speed rpm :		rack travel mm : 9.75
	± 4.00 ±	Tolerance mm : +- 0.20
rack travel mm :	4:00	MEASUREMENT
rack travel mm :	0.85	
	· +- 0.55 +	Rated speed rpm : 450
Rated speed rpm :	1200 +	Danas
		Pressure hPa : 600 rack travel mm : 12.20
LOW IDLE	Ţ	Tolerance mm : + 0.15
	+	
	†	Pressure hPa : 800
control lever	70.0	rack travel mm : 14.10 Tolerance mm : + 0.20
<pre>position degree : tolerance degree :</pre>		noterance inii : T 0.20
toter unite degree .	ļ.,,	
	1	

FUEL DELIVERY CHARACTERISTICS

E21

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 19.50

Aneroid pressure hPa Rated speed rpm	: 1200 : 600
Del. quantity cm3/1000 strokes	: 287.0
Tolerance cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000S.	: +- 6.0
Aneroid pressure	· _
Rated speed rpm Del. quantity	· : 500
cm3/1000 strokes Tolerance	: 162.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
Del. quantity cm3/1000 strokes	: 260.0
Tolerance cm3/1000 strokes	: +- 15.0
Check tolerance cm3/1000s.	: ← 19.0
Rated speed rpm	: 550
Rack travel in mm Tolerance mm	: 4.00 : +- 0.10
Del. quantity cm3/1000 strokes	
Tolerance	
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: +- 6.0
	: 8.0
Check tolerance cm3/1000s.	: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 03.08.98 : ISO 4113

Combination No. : 0 402 678 837

Injection pump

Pump designation : PE8P120A320LS7911 EP type number : 0 412 628 926

Governor

Governer design. : RSV550...1050P0A679

Governer no.

: 0 421 833 598

Cust. part No. : 027 074 6502

Customer-spec. information

: MB-NFZ Customer

Motor : OM442LA, Euro

Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

: 110 min. L/h Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

: 8-7-2-6-3 :-5-4-1 Firing order

: 0-45-90-135-180 Phasing

: -225-270-315

: **←** 0.50 Tolerance

Check

tolerance °NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : **←** 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

+	
Rack travel in mm : 14.40 Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 227.0	Rated speed rpm : 1050 Aneroid pressure hPa : 1100
Tolerance cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 227.0
Check tolerance cm3/1000s. : +- 4.0	Tolerance cm3/1000 strokes : + 1.0 Check tolerance
Spreed	cm3/1000S. : +- 4.0 Spreed Tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	CIII3/10003 9.0
	CONTROL LEVER
Rated speed rpm : 550	control lever position degree : 87.0
Rack travel in mm: 4.20 + Tolerance mm: + 0.10 + Del. quantity	tolerance degree : +- 4.0
cm3/1000 strokes : 19.0 + Tolerance +	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : + 3.0 + Check tolerance cm3/1000s. : + 6.0 +	Rated speed rpm : 1085 Tolerance 1/min : + 1 rack travel mm : 13.40
Spreed + Tolerance +	Rated speed rpm : 1125
cm3/1000 strokes : 8.0 + Check tolerance cm3/1000s. : 12.0 + cm3/1000s.	Tolerance 1/min : +- 4 rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
WITH GOVERNOR +	- · · · · · · · · · · · · · · · · · · ·
GUIDE SLEEVE POSITION	Rated speed rpm : 1087 Tolerance 1/min : +- 1 rack travel mm : 13.40
control lever position degree : -3 Rated speed rpm : 800	Rated speed rpm : 1127 Tolerance 1/min : +- 4 rack travel mm : 4.00
Rack travel in mm: 0.50 Tolerance mm: + 0.20	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
governor spring pre-tension click setting x : 2.00	Rated speed rpm : 1089 Tolerance 1/min : +- 1 rack travel mm : 13.40

	4420	t
Rated speed rpm	: 1129	1
Tolerance 1/min	: +- 4	rack travel mm : 2.00 Rated speed rpm : 580 Tolerance 1/min : +- 30
rack travel mm	: 4.00	+ Rated speed rpm : 580_
		† Tolerance 1/min : +- 30
rack travel mm		†
Tolerance mm	: +- 0.55	+ SET IDLE AUXILIARY SPRING
Rated speed rpm	: 1300	+
		+ rack travel mm : 2.00
		}
Rated speed rpm	: 1091	+
Tolerance 1/min	: ← 1	TORQUE CONTROL
rack travel mm	: 13.40	+ Rated speed rpm : 1050
		rack travel mm : 14.40
Rated speed rpm	: 1131	+ Tolerance mm : +- 0.05
Tolerance 1/min	: +- 4	4
rack travel mm	4.00	Rated speed rpm : 600 rack travel mm : 14.70 Tolerance mm : + 0.10
Table travel was		rack travel mm : 14 70
rack travel mm	· 0.85	+ Tolerance mm · + 0.10
Tolerance mm	· +- 0.55	1 Total and wall
Tolerance mm Rated speed rpm	1300	
Mateu speed (piii	. 1500	ANEROID/ALTITUDE
		COMPENSATOR TEST
Rated speed rpm	. 1003	1 CONTENSATOR 1231
Tolerance 1/min	. 10/3	
rack travel mm		SETTING
rack travet iiiii	. 13.40	7 35117140
Dated aread are	. 1177	T Dated around nom
Rated speed rpm		Rated speed rpm : 450 Pressure hPa : 1100
Tolerance 1/min	; +- 4	+ Pressure npa : 1100
rack travel mm	: 4.00	rack travel mm : 14.70 Tolerance mm : +- 0.10
	0.05	+ Tolerance mm : +- U.1U
rack travel mm	: 0.85	†
Tolerance mm	: ← 0.55	Rated speed rpm : 450 Pressure hPa : -
Rated speed rpm	: 1300	+ Pressure hPa : -
		+ rack travel mm : 11.10
		rack travel mm : 11.10 Tolerance mm : +- 0.20
Rated speed rpm	: 1095	†
Tolerance 1/min	: 1	+ MEASUREMENT
rack travel mm	: 13.40	+
		+ Rated speed rpm : 450
Rated speed rpm		+
Tolerance 1/min		Pressure hPa : 550
rack travel mm	: 4.00	+ rack travel mm : 12.50 + Tolerance mm : +- 0.15
		Tolerance mm : + 0.15
rack travel mm	: 0.85	+
Tolerance mm		+ Pressure hPa : 750
Rated speed rpm	: 1300	rack travel mm : 14.30
,		+ Tolerance mm : +- 0.20
		1
LOW IDLE		
		↓ FUEL DELIVERY CHARACTERISTICS
control lever		+
position degree	: 71.0	
tolerance degree		Aneroid pressure
TO CO, GINGE GOG! CC		↓ hРа : 1100
Testing:		+ Rated speed rpm : 600
. cochig.		+ Del. quantity
Rated speed rpm	. 550	- cm3/1000 strokes : 248.0
rack travel mm	. טעע	1 01107 1000 311 ORCS . E-TO.0
	· 4 20	1 Tolerance
Tolerance mm	: 4.20	+ Tolerance + cm3/1000 strokes : +- 2.0

: 8.0 : 12.0 : - : 500 : 166.0 : + 2.0 : + 5.0
: - : 500 : 166.0 : + 2.0 : + 5.0
: 166.0 : +- 2.0 : +- 5.0
: 166.0 : +- 2.0 : +- 5.0
: +- 2.0 : +- 5.0
: +- 5.0
IVERY
: 100
: 250.0
: +- 15.0
: +- 19.0
: 550
: 4.20 : + 0.10
: 19.0
: ← 3.0
: ← 6.0
: 8.0
: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.08.98 : ISO 4113

Combination No. : 0 402 746 650

Injection pump

Pump designation : PES6P120A320RS7344 EP type number : 0 412 726 914

Governor

Governer design. : RQ275/1050PA999-6 Governer no. : 0 421 801 785

Cust. part No. : CCEP 5151A 66-230

Customer-spec. information

Customer : RENAULT V.I. Motor : MIDR 062045 M41

Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity

min. l/h : 145 Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar Tolerance bar : ← 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 4.50 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 11.00

Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

°NW after s.o.d. : -0.15: +- 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

11.00 travel Difference ° CS : 2.25

		ı	
		+ Rated speed rpm	: 275
		+ guide sleeve	
CRT ZERO POSITION		+ travel mm	: 0.80
		+ Tolerance mm	: +- 0.10
	44 40	+	4050
Rack travel in mm		+ Rated speed rpm	: 1050
Tolerance mm	: ← 0.05	+ guide sleeve	4.00
		+ travel mm	: 6.00
DAOYA CETTING		+ Tolerance mm	: +- 0.10
BASIC SETTING		Rated speed rpm	: 396
lated speed rpm	. 600	guide sleeve	. 370
ited speed ibii	. 000	travel mm	: 2.99
al muambabu		+ Tolerance mm	
el. quantity m3/1000 strokes	. 297 0	T roterance mm	. += 0.10
137 IUUU STrokes	: 207.0	T Batad apped nom	. 550
al anames		+ Rated speed rpm	: 550
olerance	10	guide sleeve	. 4.00
n3/1000 strokes	: +- 1.0	travel mm	: 6.00 : +- 0.10
		† Tolerance mm	. +- 0.10
heck tolerance	/ 0	Pakad and all	. 1750
m3/1000s.	: +- 4.0	+ Rated speed rpm	: 1350
•		+ guide sleeve	44 50
preed		+ travel mm	: 11.50
		+ Tolerance mm	: +- 0.50
lerance		+	
3/1000 strokes	: 5.0	+	
		+ GUIDE SLEEVE POSI	ITION
ck tolerance		+	
′1000s.	: 9.0	+	
		+ control lever	
		+ position degree	
		Rated speed rpm	: 600
lspeedrpm	: 275	+	
		+ Rack travel in mm	n: 20.00
travel in mm	: -7.00	+ Tolerance mm	: +- 0.80
rance mm	: +- 0.10	+	
quantity		 	
/1000 strokes	: 37.0	+ FULL LOAD DELIVER	RY AT FULL LOAD STOP
erance		+	
/1000 strokes	: +- 2.0	+ Rated speed rpm	: 600
k tolerance		+ Aneroid pressure	
	: +- 5.0	+ hPa	: 1000
ed		+ Del. quantity	
rance		+ cm3/1000 strokes	: 287.0
1000 strokes	: 8.0	Tolerance	
k tolerance		+ cm3/1000 strokes	: ← 1.0
1000s.	: 12.0	+ Check tolerance	
		+ cm3/1000s.	: +- 4.0
		Spreed	
SETTING OF INJE	CTTON PUMP	+ Tolerance	
GOVERNOR	-0,-014 , 0, 11	cm3/1000 strokes	: 5.0
COFCINION		Check tolerance	. 5.5
		cm3/1000s.	: 9.0
E SLEEVE TRAVEL		I (m3/10003.	. 7.0
L SELEVE INMVEL	-	1	
ed speed rpm :	: 1131	1	· · · · · · · · · · · · · · · · · · ·
d sleeve	. 1131	CONTROL LEVER	
vet mm :	6.38	T CONTINUE ELVEIN	
	+- 0.10	1	
erance min	0.10	r -	

control lever position degree : 274.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1135 Tolerance 1/min : + 5 rack travel mm : -7.60 Rated speed rpm : 1240 Tolerance 1/min : ← 15 rack travel mm : -11.10Tolerance mm : + 0.50Rated speed rpm : 1350LOW IDLE control lever position degree : 251.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 200 CRT mm min. : < -5.80Testing: Rated speed rpm : 275 rack travel mm : -7.00 Tolerance mm : +-0.10-9.60rack travel mm : Rated speed rpm : 365 Tolerance 1/min : +- 20 TORQUE CONTROL Rated speed rpm : 600 Rated speed rpm : 1050 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING

Rated speed rpm : 500 Pressure hPa : -rack travel mm : -3.75 Tolerance mm : \leftarrow 0.30 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 560 rack travel mm : -1.35 Tolerance mm : +- 0.15 Pressure hPa : 320 rack travel mm : -2.85 Tolerance mm : +- 0.05 Start interlock Rated speed rpm : > 100 Rated speed rpm : < 225 Check speed 1/min : > 80 Check speed 1/min : < 245 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1000 hPa Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 280.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure 500 Rated speed rpm : Del. quantity cm3/1000 strokes : 111.0 Tolerance cm3/1000 strokes : + 1.0Check tolerance cm3/1000s. STARTING FUEL DELIVERY

Rated speed rpm : 100

Rated speed rpm : 500

1000

Pressure hPa :

Del. quantity

cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : -7.00Tolerance mm : +-0.10

Del. quantity

cm3/1000 strokes : 37.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : \leftarrow 5.0

Spreed

Tolerance cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.08.98 Test oil : ISO 4113

Combination No. : 0 402 946 022

Injection pump

Pump designation : PES6P120A320RS8038

EP type number : 0 412 926 025

Governor

Governer design. : RQ250/1000PA1265-1

Governer no. : 0 421 801 801

Cust. part No. : 1380280

Customer—spec. information Customer : SCANIA Motor : DSC 9.11

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50Tolerance mm : +0.20

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300_

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.50

Check

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.30	Rated speed rpm : 364
Tolerance mm : + 0.05	duide sleeve
Del. quantity	_ + travel mm : 3.50 + Tolerance mm : +- 0.10
cm3/1000 strokes : 277.0	Rated speed rpm : 490
Tolerance	- guide sleeve
cm3/1000 strokes : + 1.0	† travel mm : 4.50 † Tolerance mm : +- 0.10
Check tolerance	_ +
cm3/1000s. : \leftarrow 8.0	+ Rated speed rpm : 1146 + guide sleeve
Spreed	
Tolerance	Tolerance mm : +- 0.10
cm3/1000 strokes : 8.0	Rated speed rpm : 1610
	_ + guide sleeve
Check tolerance cm3/1000s. : 12.0	+ travel mm : 11.50 + Tolerance mm : +- 0.50
cm3/1000s. : 12.0	+ roterance min . +- 0.50
Rated speed rpm : 250	# GUIDE SLEEVE POSITION
	+
Rack travel in mm: 7.70	+ control lever
Tolerance mm : +- 0.10	position degree : 109
Del. quantity	+ Rated speed rpm : 600
cm3/1000 strokes : 45.0 Tolerance	Rack travel in mm : 16.40
cm3/1000 strokes : +- 3.0	+ Tolerance mm : + 0.80
Check tolerance	T rocerance man
cm3/1000s. : +- 6.0	
Spreed	+ FULL LOAD DELIVERY AT FULL LOAD STOP
· · · · · ·	
loterance	
Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 600
cm3/1000 strokes : 5.0 Check tolerance	+ Aneroid pressure
cm3/1000 strokes : 5.0	Aneroid pressure hPa : 1500
cm3/1000 strokes : 5.0 Check tolerance	Aneroid pressure hPa : 1500 Del. quantity
cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0
cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0 (B) SETTING OF INJECTION PUMP	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance
cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0
cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0 (B) SETTING OF INJECTION PUMP	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0
cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0 (B) SETTING OF INJECTION PUMP	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance
cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve travel mm : 4.82	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0
cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve travel mm : 4.82 Tolerance mm : + 0.15	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve travel mm : 4.82 Tolerance mm : 4.82 Rated speed rpm : 250	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve travel mm : 4.82 Tolerance mm : + 0.15	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER
cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve travel mm : 4.82 Tolerance mm : + 0.15 Rated speed rpm : 250 guide sleeve	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever
Cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve travel mm : 4.82 Tolerance mm : + 0.15 Rated speed rpm : 250 guide sleeve travel mm : 1.33 Tolerance mm : + 0.20	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever position degree : 38.0
Cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve travel mm : 4.82 Tolerance mm : + 0.15 Rated speed rpm : 250 guide sleeve travel mm : 1.33 Tolerance mm : + 0.20 Rated speed rpm : 990	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever
Cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve travel mm : 4.82 Tolerance mm : + 0.15 Rated speed rpm : 250 guide sleeve travel mm : 1.33 Tolerance mm : + 0.20 Rated speed rpm : 990 guide sleeve	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check to ance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 38.0 tolerance degree : +- 4.0
Cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1073 guide sleeve travel mm : 4.82 Tolerance mm : + 0.15 Rated speed rpm : 250 guide sleeve travel mm : 1.33 Tolerance mm : + 0.20 Rated speed rpm : 990	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever position degree : 38.0

tolerance degree : +- 4.0	
RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1045 Tolerance 1/min : + 5 Check speed 1/min : + 10 rack travel mm : 4.00	ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1500
Rated speed rpm : 1225 Tolerance 1/min : + 15 Check speed 1/min : + 20	rack travel mm : 12.30 Tolerance mm : + 0.05 Rated speed rpm : 500
rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1350	Pressure hPa : - rack travel mm : 10.80 Tolerance mm : +- 0.20 MEASUREMENT
	Rated speed rpm : 500
LOW IDLE	Pressure hPa : 330 rack travel mm : 11.20 Tolerance mm : +- 0.15
control lever position degree : 87.0 + tolerance degree : + 4.0 + control lever	Pressure hPa : 600 rack travel mm : 11.90 Tolerance mm : + 0.05
position degree : 25.0 tolerance degree : + 4.0	Start interlock
Setting point w/out bumper spring	Rated speed rpm : < 190 Rated speed rpm : > 150
Rated speed rpm : 150	Check
CRT mm min. : > 9.50	speed 1/min : < 210 Check
Testing:	speed 1/min : > 130
Rated speed rpm : 250 + rack travel mm : 7.70 + Tolerance mm : + 0.10	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 2.00 Rated speed rpm : 355 Tolerance 1/min : +- 20	Aneroid pressure hPa : 1500 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 278.0
TORQUE CONTROL Rated speed rpm : 600 rack travel mm : 12.30 Tolerance mm : + 0.05	Tolerance : +- 4.0 Check tolerance cm3/1000s. : +- 8.0
Rated speed rpm : 1000 rack travel mm : 12.30 Tolerance mm : + 0.10	Aneroid pressure hPa : - Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 210.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000S. 6.0 STARTING FUEL DELIVERY 100 Rated speed rpm 20.50 rack travel mm : Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 270.0 Tolerance cm3/1000 strokes : \leftarrow 20.0 Check tolerance : + 24.0 cm3/1000s. LOW IDLE 250 Rated speed rpm : Rack travel in mm : 7.70 : **←** 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 45.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s.6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s.8.0 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 032

Injection pump

Pump designation : PES4A95D320/3RS2880 EP type number : 9 410 037 214

Governor Governor design. : RSV475...1100A0C910R

Governer no. : F 002 A20 222

Cust. part No. : DEP: 3283694

Customer—spec. information Customer : CUMMINS

Motor : CUMMINS-4BTA-3.9

Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*Nw after s.o.d. : 9.00 Tolerance : + 0.10 Check

tolerance °NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.95 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 114.0

Tolerance cm3/1000 strokes	: +- 1.0	+ Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance
Check tolerance cm3/1000s.	: +- 3.0	cm3/1000s. : +- 3.0 + Spreed
Spreed		+ Tolerance + cm3/1000 strokes : 4.0 + Check tolerance
Tolerance cm3/1000 strokes	: 4.0	- cm3/1000s. : 6.5
Check tolerance cm3/1000s.	: 6.5	CONTROL LEVER
		control lever position degree : 102.0
Rated speed rpm	: 475	tolerance degree : +- 4.0
Rack travél in mm Tolerance mm Del. quantity cm3/1000 strokes	: + 0.10	RATED SPEED rack travel mm : 11.95 Rated speed rpm : 1155 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: +- 2.0 : +- 4.5	rack travel min : 4.00 Rated speed rpm : 1250 Tolerance 1/min : +- 5
Spreed Tolerance cm3/1000 strokes	: 6.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1285
Check tolerance cm3/1000s.	: 8.0	rack travel mm : 4.00
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	+ Rated speed rpm : 1250 + Tolerance 1/min : + 15 +
GUIDE SLEEVE POSIT	TION	LOW IDLE
control lever position degree Rated speed rpm		control lever position degree : 81.0 tolerance degree : + 4.0
Rack travel in mm Tolerance mm		Control lever difference Grad: 21.0 tolerance degree: +- 6.0
governor spring pre-tension click setting x	: 4.00	Setting point w/out bumper spring
	AT FULL LOAD STOP	Rated speed rpm : 475 rack travel mm : 5.00 Tolerance mm : + 0.10
	: 1100	Rated speed rpm : 100
Aneroid pressure	: 1200	CRT mm min. : > 19.00
Del. quantity cm3/1000 strokes	: 114.0	Testing:

Rated speed rpm rack travel mm Tolerance mm	: 6.00
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 550 : ← 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.95 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 14.10 : ← 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 800 : 1200
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 800 : - : 11.25 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 800
Pressure hPa rack travel mm Tolerance mm	: 650 : 12.45 : ← 0.20
	0.20
Pressure hPa rack travel mm Tolerance mm	: 550 : 11.75 : +- 0.20
rack travel mm	: 550 : 11.75 : +- 0.20
rack travel mm Tolerance mm	: 550 : 11.75 : + 0.20 RACTERISTICS : 1200 : 750

Ananaid progrups	
Aneroid pressure hPa Rated speed rpm	: - : 800
Del. quantity cm3/1000 strokes Tolerance	: 91.7
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm	: 20.50
Tolerance mm Del. quantity	: +- 0.50
cm3/1000 strokes Tolerance	: 121.4
cm3/1000 strokes	: ← 10.0
Check tolerance cm3/1000s.	: +- 15.0
LOW IDLE	
Rated speed rpm	: 475
Rack travel in mm Tolerance mm	: 6.00 : +- 0.10
Del. quantity cm3/1000 strokes	: 22.6
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s. Spreed	: +- 4.5
Tolerance cm3/1000 strokes Check tolerance	: 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 13.08.98

Test oil

: ISO 4113

Combination No. : 0 400 876 330

Injection pump

Pump designation : PES6A95D41ORS2471

EP type number : 0 410 896 952

Governor

Governer design. : RSV325...1400A2C2205

Governer no. : 0 420 232 445

Cust. part No. :

Customer-spec. information

Customer : KHD

Motor

: PPM BF6L913C

Power KW

: 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: **←** 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar

: + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter :

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

2.0

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 1.95 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : ← 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 10.95 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 89.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000S.

: **←** 3.0

Spreed

F10

Tolerance cm3/1000 strokes : 3.5	+ Check tolerance - cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	<u> </u>
	+ CONTROL LEVER
	control lever
Rated speed rpm : 325	+ position degree : 108.0 + tolerance degree : +- 4.0
Rack travel in mm: 7.30	+
Tolerance mm : + 0.10	+ RATED SPEED
Del. quantity	rack travel mm : 9.90
cm3/1000 strokes : 13.0	Rated speed rpm : 1445
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : +- 3.0	+
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 5.5	+ Rated speed rpm : 1505
Spreed	Tolerance 1/min : + 15
Tolerance	100010100 17111117
cm3/1000 strokes : 3.5	rack travel mm : 0.85
Check tolerance	+ Tolerance mm : +- 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1675
Cm3/ (UUUS	T Kated speed (pill : 1073
	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1560
WITH GOVERNOR	+ Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	+ LOW IDLE
control lever	t
position degree : - 3	+ control lever
Rated speed rpm : 800	+ position degree : 72.0
	tolerance degree : +- 4.0
Rack travel in mm : 0.50	† <u> </u>
Tolerance mm : + 0.20	+ Setting point w/out bumper spring
governor spring	Rated speed rpm : 325
pre-tension	
click setting x : 4.00	+ rack travel mm : 7.80 + Tolerance mm : +- 0.10
	}
	+ Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	+ CDT
5 to 1 and 1 and 1 and 1 and 1	+ CRT mm min. : > 19.50
Rated speed rpm : 1400	† <u> </u>
Aneroid pressure	† Testing:
hPa : 700	†
Del. quantity	+ Rated speed rpm : 325
cm3/1000 strokes : 89.0	rack travel mm : 7.30
	1 Talamanaa www 4 1 0 10
Tolerance	+ Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : +- 1.0	+
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	rack travel mm : 2.00
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	rack travel mm : 2.00 Rated speed rpm : 655
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0	rack travel mm : 2.00
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000S. : +- 3.0 Spreed Tolerance	rack travel mm : 2.00 Rated speed rpm : 655
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	rack travel mm : 2.00 Rated speed rpm : 655

Rated speed rpm		+	Aneroid pressure
rack travel mm Tolerance mm	: 10.95 : + 0.05	‡	hPa Rated speed rpm
Rated speed rpm	: 500	I	Del. quantity cm3/1000 strokes
rack travel mm		1	Tolerance
Tolerance mm		1	cm3/1900 strokes Check tolerance
Rated speed rpm	: 850	+	cm3/1000s.
rack travel mm	: 11.00	+	
Tolerance mm	: +- 0.10	Ī	
			STARTING FUEL DEL
ANEROID/ALTITUDE		+	Data dan and and
COMPENSATOR TEST		†	Rated speed rpm rack travel mm
		I	Tolerance mm
SETTING		I	Del. quantity
		1	cm3/1000 strokes
Rated speed rpm	: 650 : 700	+	Tolerance
Pressure hPa	: 700	+	cm3/1000 strokes
rack travel mm	: 11.00	+	Check tolerance
Tolerance mm	: ← 0.10	<u> </u>	cm3/1000s.
Rated speed rpm	: 650	Ţ	
Pressure hPa	: -	+	
rack travel mm	: 10.35	†	1.011.751.7
Tolerance mm	: +- 0.05	İ	LOW IDLE
MEASUREMENT		Ī	Rated speed rpm
Rated speed rpm	: 650	1	Rack travel in mm Tolerance mm
Pressure hPa	: 180	Ţ	Del. quantity
rack travel mm	: 10.55	+	cm3/1000 strokes
Tolerance mm	: +- 0.05	+	Tolerance
		+	cm3/1000 strokes
Pressure hPa	: 220	+	Check tolerance
rack travel mm		†	cm3/1000s.
Tolerance mm	: +- 0.05	I	Spreed Tolerance
		1	cm3/1000 strokes
		 +	Check tolerance
FUEL DELIVERY CHA	ARACTERISTICS	†	cm3/1000s.
	<u> </u>	Ī	
Aneroid pressure	. 700	+	
hPa Batad apaad ppm	: 700 : 850	†	
Rated speed rpm rack travel mm	: 650 : 11.00	Ī	End of test speci
Tolerance mm	: + 0.10	Į	LIM OF COST SPECE
Del. quantity		+	
cm3/1000 strokes	: 81.0	+	
Tolerance		+	
cm3/1000 strokes Check tolerance	: +- 1.5	†	
cm3/1000s.	: +- 4.0	Ī	
UII3/ 10003.	4.0	Ť	

hPa	: -
Rated speed rpm	: 650
Del. quantity cm3/1000 strokes	: 65.0
Tolerance	. 05.0
cm3/1900 strokes	: +- 1.0
Check tolerance	. 3.0
cm3/1000S.	: +- 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm	: 15.80
Tolerance mm	: +- 0.20
Del. quantity	
cm3/1000 strokes	: 120.0
Tolerance	
cm3/1000 strokes	: +- 5.0
Check tolerance	• •
cm3/1000s.	: +- 8.0
LOW IDLE	
Rated speed rpm	: 325
Rack travel in mm	: 7.30
Tolerance mm	: +- 0.10
Del. quantity	
cm3/1000 strokes	: 13.0
Tolerance	-
cm3/1000 strokes	: - 3.0
Check tolerance	
cm3/1000s.	: +- 5.5
Spreed Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance	. 3.7
cm3/1000s.	: 5.5

specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 25.09.97 Edition : ISO 4113 Test oil

Combination No. : 0 402 066 713

Injection pump

Pump designation : PES6P110A120RS3357 EP type number : 0 412 016 754

Governor

Governer design. : RSV550...1100P2A677

Governer no. : 0 421 833 596

Cust. part No. : 3931957

Customer-spec. information

: CDC Customer

: 6CTA ELITE Motor

Power KW : 208.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05 3.60

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 : **←** 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.30

Check

tolerance °NW : + 0.75

Start of delivery blocking

°NW after s.o.d. : : **←** 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

13.00 Rack travel in mm :

Tolerance mm : +-	0.05	Rated speed rpm Aneroid pressure	: 1100
Del. quantity cm3/1000 strokes :	195.5	hPa Del. quantity	: 1500
		cm3/1000 strokes	: 195.5
Tolerance cm3/1000 strokes : +-	1.0	Tolerance cm3/1000 strokes Check tolerance	: +- 1.0
Check tolerance cm3/1000s. : +-	3.0	cm3/1000s. Spreed	: ← 3.0
Spreed	 ‡	Tolerance cm3/1000 strokes	: 4.0
Tolerance cm3/1000 strokes :	4.0	Check tolerance cm3/1000s.	: 7.5
Check tolerance cm3/1000s. :	7.5	CONTROL LEVER	
-		control lever	
	+	position degree	: 99.0
Rated speed rpm : 5	550 +	tolerance degree	: +- 4.0
Tolerance mm : +-	6.40	RATED SPEED rack travel mm Rated speed rpm	
Del. quantity cm3/1000 strokes :	29.5	Tolerance 1/min	
Tolerance	+		
cm3/1000 strokes : +- Check tolerance	2.0	rack travel mm Rated speed rpm	: 4.00 : 1285
cm3/1000s. : +-	4.5	Tolerance 1/min	
Spreed	+		
Tolerance	6.0	rack travel mm Tolerance mm	: 0.85 : +- 0.55
cm3/1000 strokes : Check tolerance	0.0	Rated speed rpm	
cm3/1000s. :	9.0		
	+	rack travel mm	: 4.00
(B) SETTING OF INJECTION	1 DI IMP	Rated speed rpm Tolerance 1/min	
WITH GOVERNOR	T	Totelance Trimin	. ' '15
	İ		
GUIDE SLEEVE POSITION	†	LOW IDLE	
	İ		
control lever	Ţ	control lever	
position degree : -3	+	position degree	
Rated speed rpm : 8	500	tolerance degree	: +- 4.0
Rack travel in mm :	0.50	Control lever dif	ference
Tolerance mm : +-		Grad	: 20.0
	+	tolerance degree	: 6.0
governor spring pre-tension	<u>†</u>	Setting point w/o	ut humber spring
	2.50	Jecting point w/o	ar pumper spring
	+	Rated speed rpm	
	+	rack travel mm	
FULL LOAD DELIVERY AT FU	LL LOAD STOP	Tolerance mm	: +- 0.10
	†		

Rated speed rpm	: 100	+ +	Aneroid pressure nPa	: 1500
CRT mm min.	: < 19.00	1 + 1	Rated speed rpm Del. quantity	
Testing:		+ (cm3/1000 strokes Folerance	: 212.0
Rated speed rpm rack travel mm	: 550 : 6.40	+ (cm3/1000 strokes Check tolerance	: +- 2.0
Tolerance mm	: + 0.20		cm3/1000s.	: +- 5.0
TORQUE CONTROL	4400		Aneroid pressure	
Rated speed rpm	: 1100		nPa	: -
rack travel mm	: 13.00		Rated speed rpm	: 600
Tolerance mm		+ 0	Del. quantity cm3/1000 strokes	: 154.5
Rated speed rpm	: 750		Tolerance	
rack travel mm	: 13.50		cm3/1000 strokes	: + 1.0
Tolerance mm			Check tolerance cm3/1000s.	: +- 3.0
Rated speed rpm	: 1050	+		
rack travel mm	: 13.10	+		
Tolerance mm	: ← 0.20	† :	TANTANO CUE AT	TUEDY
Dakad as and see	. 050	† 5	STARTING FUEL DEL	LVERY
Rated speed rpm	: 950 : 47.50	† ,)	. 100
rack travel mm		† 2	Rated speed rpm	: 100
Tolerance mm	: +- 0.10	† [rack travel mm	: 21.00
		† !	Tolerance mm	: +- 0.50
ANEDOTO / AL TITLINE			Del. quantity cm3/1000 strokes	· 165 0
ANEROID/ALTITUDE COMPENSATOR TEST		,	olerance	. ט.נטו
CONTENSATOR TEST			m3/1000 strokes	· +- 20 0
		1	Check tolerance	20.0
SETTING		•	:m3/1000s.	: +- 25.0
Rated speed rpm	: 600	I		
Pressure hPa	: 1500	<u> </u>		
		+ -	OU TN E	
Rated speed rpm	: 600	<u>†</u> '	OW IDLE	
Pressure hPa rack travel mm	: 11.50	I .	ated speed rpm	: 550
Tolerance mm	: ← 0.20	I "	area speed (biii	.))(
FOCCI GLICE HIII	0.20	↓ R	ack travel in mm	: 6.40
MEASUREMENT		3	olerance mm	
			el. quantity	
Rated speed rpm	: 600		m3/1000 strokes	: 29.5
• • • • • •		∔ т	olerance	
Pressure hPa	: 1150	· ·	m3/1000 strokes	: 2.0
rack travel mm	: 12.95		heck tolerance	
Tolerance mm	: +- 0.20		m3/1000s. preed	: +- 4.5
Pressure hPa	: 975		olerance	
rack travel mm	: 12.15	+ c	m3/1000 strokes	: 6.0
Tolerance mm	: +- 0.20		heck tolerance	
		+ c	m3/1000s.	: 9.0
	·	1		
FUEL DELIVERY CH/	ARACTERISTICS	Ī		
. JEE VELIVERY CITY	10 21/20 200	ſ		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.06.98 : ISO 4113 Test oil

Combination No. : F 002 A07 01500

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1250A00892R

Governer no. : F 002 A20 215

Cust. part No. : 3935047

Customer-spec. information

: CDC Customer

: 4BTA ELITE Motor

: 86.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : **←** 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : ← 1.0

Prestroke mm Tolerance mm : 2.45 : **←** 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

: ← 0.50 Tolerance

Check

tolerance "NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 9.00 : +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Barrel no.

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35

Tolerance mm : \leftarrow 0.05

+	Del. quantity
Del. quantity cm3/1000 strokes : 113.0	cm3/1000 strokes : 113.0 Tolerance
	cm3/1000 strokes : + 1.0 Check tolerance
Tolerance cm3/1000 strokes : + 1.0 +	cm3/1000s. : +- 3.0 Spreed
Check tolerance cm3/1000S. : + 3.0	Tolerance cm3/1000 strokes : 3.5 Check tolerance
Spreed	cm3/1000s. : 6.0
Tolerance cm3/1000 strokes : 3.5	CONTROL LEVER
Check tolerance cm3/1000s. : 6.0	control lever
 ‡	position degree : 111.0 tolerance degree : +- 4.0
Rated speed rpm : 475	RATED SPEED rack travel mm : 12.30
Rack travel in mm: 6.00	Rated speed rpm : 1320
Tolerance mm : + 0.10 +	Tolerance 1/min : +- 5
Del. quantity	Check
cm3/1000 strokes : 21.0 + Tolerance +	speed 1/min : +- 10
cm3/1000 strokes : +- 2.0 +	rack travel mm : 5.10 Rated speed rpm : 1410
Check tolerance + cm3/1000s. : + 4.5 +	Tolerance 1/min : +- 5
Spreed +	Check
Tolerance	speed 1/min : +- 10
cm3/1000 strokes : 3.5	Special (7)(ii)
Check tolerance	rack travel mm : 0.85
cm3/1000s. : 5.5	Tolerance mm : +- 0.55
1	Rated speed rpm : 1475
(B) SETTING OF INJECTION PUMP	rack travel mm : 5.10
WITH GOVERNOR	Rated speed rpm : 1410
+	Tolerance 1/min : + 15
+	Check
	speed $1/\min$: \leftarrow 20
GUIDE SLEEVE POSITION +	
Rated speed rpm : 800 +	
Rack travel in mm: 0.50 Tolerance mm: + 0.20	LOW IDLE
governor spring +	control lever
pre-tension +	position degree : 85.0
click setting x : 4.25	tolerance degree : +- 4.0
+	
	Control lever difference
FULL LOAD DELIVERY AT FULL LOAD STOP	Grad : 26.0
Rated speed rpm : 1250	tolerance degree : +- 6.0
Rated speed rpm : 1250 + Aneroid pressure +	Setting point w/out bumper spring
hPa : 1000 +	secting point wroat pumper spring
. 1000	Rated speed rpm : 475
•	•

rack travel mm Tolerance mm	: 5.50 : +- 0.10		
Rated speed rpm	: 100		
CRT mm min.	: > 19.00		
Testing:			
Rated speed rpm rack travel mm Tolerance mm	: 475 : 6.00 : + 0.10		
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1250 : 13.35 : + 0.05		
ANEROID/ALTITUDE COMPENSATOR TEST			
SETTING			
Rated speed rpm Pressure hPa	: 800 : 1000		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 800 : − : 12.35 : ← 0.20		
MEASUREMENT			
Rated speed rpm	: 800		
Pressure hPa rack travel mm Tolerance mm	: 460 : 13.15 : ← 0.20		
Pressure hPa rack travel mm Tolerance mm	: 375 : 12.85 : ← 0.20		
FUEL DELIVERY CHARACTERISTICS			
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 103.5 : ← 1.0		
cm3/1000s.	: +- 3.0		

STARTING FUEL DELIVERY				
Rated speed rpm rack travel mm Tolerance mm Del. quantity	:	100 20.50 0.50		
cm3/1000 strokes Tolerance	:	121.5		
cm3/1000 strokes Check tolerance	: +-	10.0		
cm3/1000S.	: +-	15.0		
LOW IDLE				
Rated speed rpm	:	475		
Rack travel in mm Tolerance mm Del. quantity	: : +-	6.00 0.10		
cm3/1000 strokes	:	21.0		
Tolerance cm3/1000 strokes Check tolerance	: 4-	2.0		
cm3/1000S. Spreed Tolerance	: +-	4.5		
INIAPARCA				

End of test specification sheet

Check tolerance cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.08.98 Test oil : ISO 4113

Combination No. : 0 401 876 789

Injection pump

Pump designation : PE6P120A320RS3189 EP type number : 0 411 826 759

Governor

Governer design. : RSV650...750P4A421

: -13

Governer no. : 0 421 833 466

Cust. part No. : 864818 PO6 v. 06/96

Customer~spec. information Customer : PENTA Motor : TD710G

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 215
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

. 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.65
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50Tolerance mm : +-0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm Tolerance mm	: 9.00 : +- 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700
Del. quantity cm3/1000 strokes	: 180.0	Aneroid pressure hPa : - Del. quantity
Tolerance cm3/1000 strokes	: +- 1.0	cm3/1000 strokes : 180.0 Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s.	: +- 4.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Spreed		Tolerance cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes	: 5.0	Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s.	9.0	
		+ CONTROL LEVER
Rated speed rpm	: 650	<pre>control lever position degree : 92.0 tolerance degree : + 4.0</pre>
Rack travel in mm Tolerance mm Del. quantity	: 3.20 : +- 0.10	+ RATED SPEED + rack travel mm : 8.00
cm3/1000 strokes Tolerance		Rated speed rpm : 753 Tolerance 1/min : + 3
Check tolerance cm3/1000s.	: +- 3.0 : +- 5.0	rack travel mm : 4.00 Rated speed rpm : 779 Tolerance 1/min : +- 7
Spreed Tolerance cm3/1000 strokes	5.0	rack travel mm : 0.85
Check tolerance cm3/1000s.	7.0	Tolerance mm : +- 0.55 Rated speed rpm : 900
(B) SETTING OF INJE	ECTION PUMP	ASSEMBLY GOVERNOR SETTING
WITH GOVERNOR		Rated speed rpm : 750 rack travel mm : 8.00
GUIDE SLEEVE POSIT	ION	Rated speed rpm : 776 Tolerance 1/min : +- 4 rack travel mm : 4.00
control lever position degree : Rated speed rpm :	: - 3 : 800	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 900
Rack travel in mm : Tolerance mm :	0.50 + 0.20	Rated speed rpm : 751 rack travel mm : 8.00
governor spring pre-tension click setting x	4.50	Rated speed rpm : 777 Tolerance 1/min : +- 4 rack travel mm : 4.00

rack travel mm Tolerance mm Rated speed rpm		Testing: Rated speed rpm : 650 rack travel mm : 3.20 Tolerance mm : +- 0.10
Rated speed rpm rack travel mm	: 8.00	rack travel mm : 2.00 Rated speed rpm : 660
Rated speed rpm Tolerance 1/min	: +- 4	Tolerance 1/min : + 30
rack travel mm		+ SET IDLE AUXILIARY SPRING
rack travel mm Tolerance mm Rated speed rpm	: ← 0.55	rack travel mm : 2.00
Wassa speed speed		TORQUE CONTROL Rated speed rpm : 700
Rated speed rpm rack travel mm		rack travel mm : 9.00 Tolerance mm : + 0.05
Rated speed rpm Tolerance 1/min	: ← 4	-
rack travel mm		‡
rack travel mm Tolerance mm Rated speed rpm	: 0.55	STARTING FUEL DELIVERY
		Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50
Rated speed rpm rack travel mm		Tolerance mm : +- 0.50
Rated speed rpm Tolerance 1/min		‡ <u></u>
rack travel mm		LOW IDLE
rack travel mm Tolerance mm		Rated speed rpm : 650
Rated speed rpm		Rack travel in mm: 3.20 Tolerance mm: + 0.10 Del. quantity
Rated speed rpm rack travel mm	: 755 : 8.00	cm3/1000 strokes : 22.0
Rated speed rpm	: 781	cm3/1000 strokes : +- 3.0 - Check tolerance
Tolerance 1/min rack travel mm		cm3/1000s. : +- 5.0 + Spreed
rack travel mm	: 0.85	Tolerance cm3/1000 strokes : 5.0
Tolerance mm Rated speed rpm	: ← 0.55 : 900	t Check tolerance cm3/1000s. : 7.0
LOW IDLE		<u></u>
control lever position degree tolerance degree		End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.08.98 Edition Test oil : ISO 4113

Combination No. : 0 402 040 701

Injection pump

Pump designation : PES12P12OA92ORS3402

EP type number : 0 412 020 703

Governor

Governer design. : RQV350...1400PA1145

: 0 421 814 092 Governer no.

Cust. part No. :

Customer-spec. information

: FINCANTIERI Customer : 1312MSD Motor Power KW : 625.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

2.0 Inlet press. bar :

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

: 1 680 750 089 Test lines

Outside diameter : 8.0 x inside diameter : 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : **←** 1.0

3.55 Prestroke mm : **←** 0.05 Tolerance mm Check

tolerance mm

: +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-12A-9-4A - 5-8A Firing order

: - 11-2A - 3-10A

: - 7

: 0-45-60-105-120 Phasing

: -165-180-225-240

: -285-300-345 : +- 0.50

Tolerance Check

tolerance °NW : +- 0.75

BASIC SETTING

750 Rated speed rpm :

Rack travel in mm : 13.10 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 288.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +cm3/1000s. 4.0

Spreed

Tolerance

cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s.

: 11.0

Rated speed rpm : 350

Rack travel in mm: 4.00 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000S. : **←** 6.0

Spreed

Tolerance

cm3/1000 strokes : 10.0

Check tolerance

14.0 cm3/1000s.

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1415

guide sleeve

8.38 travel mm

: **←** 0.15 Tolerance mm

: 350 Rated speed rpm

quide sleeve

travel mm 1.56

: +- 0.20 Tolerance mm

: 915 Rated speed rpm

guide sleeve

5.32 travel mm

: **←** 0.25 Tolerance mm

Rated speed rpm

: 520

auide sleeve travel mm

: 3.41

: **←** 0.25 Tolerance mm

Rated speed rpm : 1750

auide sleeve

11.50 travel mm

Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever

position degree : - 1

Rated speed rpm : 1415

Rack travel in mm: 16.50

Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :

Aneroid pressure

1000

Del. quantity

cm3/1000 strokes : 288.0

Tolerance

hPa

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 7.0

Check tolerance

cm3/1000s. 11.0

CONTROL LEVER

control lever

position degree : 114.0

tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 12.10

Rated speed rpm : 1395 Tolerance 1/min : +-

rack travel mm : 4.00

Rated speed rpm : 1585

Tolerance 1/min : +- 15

rack travel mm : 0.50

: +- 0.50 Tolerance mm

Rated speed rpm : 1750

LOW IDLE

control lever

position degree : 62.0

tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 250

CRT mm min. : > 6.40

Testing:

Rated speed rpm : 350 rack travel mm : 4.00 Tolerance mm : +- 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 750 rack travel mm : 13.10 Tolerance mm : +0.05

Rated speed rpm : 1350 rack travel mm : 13.10 Tolerance mm : +-- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 13.10
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 9.90
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 350 rack travel mm : 11.00 Tolerance mm : +- 0.20

Pressure hPa : 400 rack travel mm : 12.00 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000 Rated speed rpm : 1350 Del. quantity

cm3/1000 strokes : 246.0

Tolerance

cm3/1000 strokes : +- 4.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max.

control lever setting.

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : $\leftarrow 0.75$

Del. quantity

cm3/1000 strokes : 510.0

Tolerance

cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 25.0

LOW IDLE

Delivery for standard plunger/barrel

assemblies.

Zero delivery for shutoff assemblies

(refer to cam sequence).

Rated speed rpm : 350

Rack travel in mm : 4.00 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : \leftarrow 6.0

Spreed

Tolerance : 10.0 Check tolerance cm3/1000s. : 14.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23.07.98 : ISO 4113

Combination No. : 0 402 630 814

Injection pump

Pump designation : PE12P130A120LS7338

EP type number : 0 412 630 805

Governor

Governer design. : RQV300...825PA1152

Governer no. : 0 421 814 095

Cust. part No. : 4.030.377.3

Customer-spec. information Customer : SACM

Motor Power KW

: UD25.V12 : 1050.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1; 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.5

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

. 0 681 443 022

Opening pressure

bar

: 173.5

Tolerance bar

: +− 1.5

Test lines : 1 680 750 060

Outside diameter : 8.0

x inside diameter : 4.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

rest pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85

: +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order

: 1- 8-5- 10- 3

: - 7- 6- 11 : - 2- 9- 4

: - 12

: 0-37.5-60-97.5-120 Phasing

: -157.5-180-217.5

: -240-277.5-300

: -337.5

Tolerance : **←** 0.50

Check

tolerance °NW : **←** 0.75

Start of delivery mark

Tolerance

: **←** 0.50

Check

tolerance °NW

: **←** 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 825

		1
Rack travel in mm Tolerance mm	n: 12.00 :+- 0.05	Rated speed rpm : 389 guide sleeve travel mm : 3.29
Del. quantity cm3/1000 strokes	: 450.5	Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes	: +- 1.5	Rated speed rpm : 620 guide sleeve travel mm : 4.83
Check tolerance cm3/1000s.	: + 5.0	Tolerance mm : + 0.25 Rated speed rpm : 1130
Spreed		↓ guide sleeve ↓ travel mm : 11.50 ↓ Tolerance mm : ← 0.50
Tolerance cm3/1000 strokes	: 6.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: 10.0	T GOIDE SEELVE FOSITION
		control lever position degree : - 1 Rated speed rpm : 1020
Rated speed rpm	: 300	Rack travel in mm : 10.00
Rack travel in mm Tolerance mm		Tolerance mm : +- 2.00
Del. quantity cm3/1000 strokes Tolerance	: 60.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes Check tolerance	: +- 3.0	Rated speed rpm : 825 Aneroid pressure
cm3/1000S. Spreed	: 7.0	+ hPa : - + Del. quantity
Tolerance cm3/1000 strokes	: 10.0	+ cm3/1000 strokes : 450.5 + Tolerance
Check tolerance cm3/1000S.	: 14.0	+ cm3/1000 strokes : + 1.5 + Check tolerance
(B) SETTING OF IN	LICCTION DIMO	+ cm3/1000s. : +- 5.0 + Spreed + Tolerance
WITH GOVERNOR	DECITOR PORP	cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAV	/EL	cm3/1000s. : 10.0
Rated speed rpm	: 890	†
guide sleeve travel mm	: 7.85	+ CONTROL LEVER
Tolerance mm	: ← 0.25	control lever position degree : 120.0
Rated speed rpm guide sleeve travel mm	: 300 : 1.84	tolerance degree : +- 4.0 RATED SPEED
Tolerance mm	: +- 0.25	rack travel mm : 11.00 Rated speed rpm : 875
Rated speed rpm guide sleeve	: 339	Tolerance 1/min : + 5
travel mm Tolerance mm	: 2.61 : + 0.25	rack travel mm : 4.00 Rated speed rpm : 950

Tolerance 1/min : +- 15

LOW IDLE

control lever

position degree : 70.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.10

Testing:

Rated speed rpm : 300 rack travel mm : 5.40 Tolerance mm : +- 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 825 rack travel mm : 12.00 Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100 Rated speed rpm : > 220

Check

speed 1/min : > 80

Check

speed 1/min : > 240

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.40 Tolerance mm : + 0.10

G01

Del. quantity

cm3/1000 strokes : 60.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : \leftarrow 7.0

Spreed

Tolerance

cm3/1000 strokes : 10.0

Check tolerance

cm3/1000s. : 14.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.08.98 : ISO 4113

Combination No. : 0 402 746 657

Injection pump

Pump designation : PES6P120A320RS7457

EP type number : 0 412 726 977

Governor

Governer design. : RQV325...1200PA1393

Governer no. : 0 421 814 210

Cust. part No. :

Customer—spec. information Customer : STAR Motor : T359E-CF Power KW : 115.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

40 : +- 2.0

Overflow valve : 2 417 413 047

Inlet press. bar : 2.0

Overflow quantity

min. l/h : 95
Tolerance l/h : + 10.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.45 Tolerance mm : +- 0.05 5.45

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : ← 0.50

Firing order : 1- 5- 3- 6- 2- : 4

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.00 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 220.0

Tolerance - cm3/1000 strokes : +- 1.0 -	guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : +- 4.0	GUIDE SLEEVE POSITION
Spreed	
Tolerance - cm3/1000 strokes : 5.0	- control lever - position degree : - 1 - Rated speed rpm : 1320
Check tolerance	Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Rated speed rpm : 325	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 6.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 14.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1200 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0 CONTROL LEVER
GUIDE SLEEVE TRAVEL	- control lever - position degree : 123.0
Rated speed rpm : 1259 guide sleeve travel mm : 9.83 Tolerance mm : + 0.15 Rated speed rpm : 325	tolerance degree : +- 4.0 RATED SPEED rack travel mm : 12.00 Rated speed rpm : 1265 Tolerance 1/min : +- 5
guide sleeve travel mm : 1.44 Tolerance mm : +- 0.20	- - rack travel mm : 4.00 - Rated speed rpm : 1380 - Tolerance 1/min : +- 15
Rated speed rpm : 897 guide sleeve travel mm : 6.81 Tolerance mm : + 0.25	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1470
Rated speed rpm : 560 guide sleeve travel mm : 4.05 Tolerance mm : +- 0.25	LOW IDLE
Rated speed rpm : 1560	•

G03

control lever position degree tolerance degree	: 85.0 : + 4.0
Setting point w/d	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 10.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 6.20 : ← 0.10
Rated speed rpm	: 375
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1200 : 13.00 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 13.00 : ← 0.10
·	
ANEROID/ALTITUDE COMPENSATOR TEST	
COMPENSATOR TEST	: 500 : 900 : 13.00 : ← 0.05
SETTING Rated speed rpm Pressure hPa rack travel mm	: 13.00
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 13.00 : ← 0.05 : 500 : – : 11.70
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 13.00 : \(\to \) 0.05 : 500 : - : 11.70 : \(\to \) 0.20
SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 13.00 : \(\to \) 0.05 : 500 : - : 11.70 : \(\to \) 0.20

Rated speed rpm Rated speed rpm	: < 100 : > 245
Check speed 1/min Check speed 1/min	: < 80 : > 265
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 177.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 325
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: ← 0.10

Start interlock

Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000S. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000S. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition Test oil

: 10.07.98 : ISO 4113

Combination No. : 0 402 846 303

Injection pump

Pump designation : PE6P120A320LS8526 EP type number : 0 412 826 203

Governor

Governer design. : RQV325...1000PA1392K

Governer no. : 0 421 815 900

Cust. part No. :

Customer-spec. information

Customer : LIAZ
Motor : m1.2c m 640 se

: 242.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 086

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 165 Tolerance l/h : ← 20.0

Test nozzle holde assembly

Opening pressure

bar

208.5

: 1 688 901 105

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : +-4.33 : **←** 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.25 Tolerance mm : +- 0.75

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 975

Rack travel in mm: 10.60

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 288.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0	<u> </u>
	GUIDE SLEEVE POSITION
Spreed	+ Rated speed rpm : 1169
Tolerance cm3/1000 strokes : 5.0	Rack travel in mm : 9.60 Tolerance mm : + 1.30
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	+
Rated speed rpm : 325	+ Rated speed rpm : 975 + Aneroid pressure + hPa : 1100
Rack travel in mm : 4.50 Tolerance mm : +- 0.10	Del. quantity cm3/1000 strokes : 288.5
Del. quantity cm3/1000 strokes : 25.0 Tolerance	+ Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0	+ cm3/1000s. : +- 4.0 + Spreed + Tolerance
Spreed Tolerance	+ cm3/1000 strokes : 5.0 + Check tolerance
cm3/1000 strokes : 8.0 Check tolerance	- cm3/1000s. : 9.0
cm3/1000s. : 12.0	<u> </u>
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER control lever position degree : 116.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	+
Rated speed rpm : 1036 guide sleeve travel mm : 9.59	RATED SPEED rack travel mm : 9.60 Rated speed rpm : 1015 Tolerance 1/min : + 5
Tolerance mm : + 0.15 Rated speed rpm : 325	rack travel mm : 4.00 Rated speed rpm : 1090
guide sleeve travel mm : 1.47	Tolerance 1/min : + 15
Tolerance mm : +- 0.20	rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm : 760 guide sleeve	Rated speed rpm : 1200
travel mm : 6.37 Tolerance mm : +- 0.25	<u> </u>
Rated speed rpm : 510 guide sleeve	LOW IDLE
travel mm : 3.85 Tolerance mm : +- 0.25	+ control lever + position degree : 70.0
Rated speed rpm : 1290	tolerance degree : +- 4.0
guide sleeve	†

Rated speed rpm	: 225	Check speed 1/min : < 265
CRT mm min.	: > 6.11	
Testing:	<u> </u>	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm	: 325 : 4.50 : +- 0.10	Aneroid pressure hPa : 1100
	+	Rated speed rpm : 700
Rated speed rpm	: 3/5	Del. quantity cm3/1000 strokes : 314.5 Tolerance
TORQUE CONTROL Rated speed rpm	: 975	cm3/1000 strokes : +- 3.0 Check tolerance
rack travel mm	: 10.60 : +- 0.05	cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm	: 700	Aneroid pressure hPa : -
Tolerance mm	: ← 0.10	Rated speed rpm : 500
	 ‡	Del. quantity cm3/1000 strokes : 225.0
ANEROID/ALTITUDE COMPENSATOR TEST	‡	Tolerance cm3/1000 strokes : +- 2.0
SETTING	‡	Check tolerance cm3/1000S. : +- 4.0
	7	
Rated speed rpm Pressure hPa rack travel mm	: 975 : 1100 : 10.60	STARTING FUEL DELIVERY
	: + 0.05	Rated speed rpm : 100 rack travel mm : 13.00
Rated speed rpm Pressure hPa	: 975	Del. quantity cm3/1000 strokes : 400.0
rack travel mm	7.95	Tolerance
	: ← 0.10 +	cm3/1000 strokes : +- 20.0 Check tolerance
MEASUREMENT	‡	cm3/1000s. : +- 24.0
Rated speed rpm	: 975	
Pressure hPa rack travel mm	: 380 : 8.60	LOW IDLE
Tolerance mm	: +- 0.20	Rated speed rpm : 325
Pressure hPa	: 590	
rack travel mm Tolerance mm	: 10.00 + : + 0.05 +	Rack travel in mm : 4.50 Tolerance mm : + 0.10
		Del. quantity cm3/1000 strokes : 25.0
Start interlock	†	Tolerance cm3/1000 strokes : +- 3.0
	: > 100	Check tolerance
Rated speed rpm	: < 245	cm3/1000s. : +- 6.0 Spreed
Check speed 1/min	: > 80	Tolerance cm3/1000 strokes : 8.0
	+	

Check tolera cm3/1000s.	ance	:	12.0	
End of test	specit	ficatio	on sheet	
			·	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 24.08.98 : ISO 4113

Combination No. : 9 400 087 506

Injection pump

Pump designation : PES6P120A320/3RS3365

EP type number : 9 400 087 092

Governor

Governer design. : RSV450...900P7A628

Governer no. : 9 420 082 333

Cust. part No. : 3356095

Customer-spec. information Customer : CUMMINS : 6CTAAG Motor Power KW : 240.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.3

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

G10

x inside diameter: 3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.40 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: ← 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

"NW after s.o.d. : 7.50

Tolerance

: **←** 0.10

Check

tolerance °NW : **←** 0.23

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 11.85

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 264.0	+ Aneroid pressure + hPa : - - Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 264.0 Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : + 4.0	Check tolerance cm3/1000s. : + 4.0
Spreed	+ Spreed + Tolerance + cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes : 5.0	Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	CONTROL LEVER
	+ CONTROL LEVER
Rated speed rpm : 450	control lever position degree : 61.0
Rack travel in mm : 4.50	tolerance degree : +- 4.0
Tolerance mm : +- 0.10	control lever
Del. quantity	position degree : 111.0
cm3/1000 strokes : 18.0	tolerance degree : +- 4.0
Tolerance - cm3/1000 strokes : +- 3.0 -	
Check tolerance	ASSEMBLY GOVERNOR SETTING
cm3/1000s. : +- 6.0	+
Spreed	Rated speed rpm : 959
Tolerance - cm3/1000 strokes : 8.0	rack travel mm : 10.80
Check tolerance	Rated speed rpm : 999
cm3/1000s. : 12.0	Tolerance 1/min : + 4
-	rack travel mm : 4.00
(D) CETTALC OF TALLECTION DIMED	† + rack travel mm : 0.50
(B) SETTING OF INJECTION PUMP - WITH GOVERNOR -	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50
WITH GOVERNOR	Rated speed rpm : 1030
•	+
CUITAG OF FRIE BOOTTON	Potest and and and
GUIDE SLEEVE POSITION -	Rated speed rpm : 960 rack travel mm : 10.80
· -	Tack travet mir . 10.00
control lever	Rated speed rpm : 1000
position degree : - 3	Tolerance 1/min : +- 4
Rated speed rpm : 800 -	rack travel mm : 4.00
Rack travel in mm: 0.50	rack travel mm : 0.50
Tolerance mm : + 0.20 -	Tolerance mm : +- 0.50
_	Rated speed rpm : 1030
governor spring -	
pre-tension - click setting x : 5.75 -	Rated speed rpm : 961
CLICK SELLING A . J.17	rack travel mm : 10.80
	+
FULL LOAD DELIVERY AT FULL LOAD STOP -	Rated speed rpm : 1001
Datad aread mm + 000	Tolerance 1/min : +- 4
Rated speed rpm : 900 -	rack travel mm : 4.00
ī	I

rack travel mm			
		+	
Tolerance mm	: +- 0.50	+ CRT mm min.	: > 19.00
Rated speed rpm	: 1030	Tosting	
		+ Testing:	
Rated speed rpm	: 962	+ Rated speed rpm	: 450
rack travel mm	: 10.80	Rated speed rpm rack travel mm	: 4.50
		Tolerance mm	: +- 0.10
Rated speed rpm		† rack travel mm	. 2.00
Tolerance 1/min rack travel mm		Rated speed rpm	· 485
rack travet iiiii	. 4.00	+ Tolerance 1/min	
rack travel mm	: 0.50	+	
Tolerance mm Rated speed rpm	: ← 0.50	+	·
Rated speed rpm	: 1030	+ TORQUE CONTROL	. 000
		+ Rated speed rpm + rack travel mm	: 900
Rated speed rpm	: 963	+ Tolerance mm	
rack travel mm		+	
		+ Rated speed rpm	: 550
Rated speed rpm		rack travel mm	
Tolerance 1/min		† Tolerance mm	: +- 0.05
rack travel mm	: 4.00	I	
rack travel mm	: 0.50	+	
Tolerance mm Rated speed rpm	: 0.50 : +- 0.50	+	
Rated speed rpm	: 1030	†	
		STARTING FUEL DEL	TVEDY
Rated speed rpm	: 964	I STANTING FOLL DEL	TACIVI
rack travel mm	: 10.80	+ Rated speed rpm	: 100
		† rack travel mm	: 20.00
Rated speed rpm Tolerance 1/min	: 1004	+ Tolerance mm	: +- 1.00
IOIECADCE I/MID	: +- 4	+ Del. quantity	
	• 4.00	i cm4/7/W/I etrokee	• 3020
rack travel mm	: 4.00	+ cm3/1000 strokes + Tolerance	: 302.0
		+ cm3/1000 strokes + Tolerance + cm3/1000 strokes	
rack travel mm rack travel mm Tolerance mm	: 0.50 : + 0.50	Tolerance cm3/1000 strokes check tolerance	: + 10.0
rack travel mm	: 0.50 : + 0.50	Tolerance cm3/1000 strokes	
rack travel mm rack travel mm Tolerance mm	: 0.50 : + 0.50	Tolerance cm3/1000 strokes check tolerance	: + 10.0
rack travel mm rack travel mm Tolerance mm	: 0.50 : + 0.50	Tolerance cm3/1000 strokes check tolerance	: + 10.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50	Tolerance cm3/1000 strokes check tolerance cm3/1000s.	: + 10.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE	: 0.50 : + 0.50	Tolerance cm3/1000 strokes check tolerance	: + 10.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE	: 0.50 : ← 0.50 : 1030	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE	: +- 10.0 : +- 14.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever	: 0.50 : ← 0.50 : 1030	Tolerance cm3/1000 strokes check tolerance cm3/1000s.	: +- 10.0 : +- 14.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE	: 0.50 : ← 0.50 : 1030	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE	: +- 10.0 : +- 14.0 : 450 : 4.50
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever	: 0.50 : + 0.50 : 1030 : 81.0 : + 4.0	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpin Rack travel in mm Tolerance mm	: + 10.0 : + 14.0 : 450 : 4.50
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever position degree	: 0.50 : + 0.50 : 1030 : 81.0 : + 4.0 : 31.0	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity	: + 10.0 : + 14.0 : 450 : 4.50 : + 0.10
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever	: 0.50 : + 0.50 : 1030 : 81.0 : + 4.0 : 31.0	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: + 10.0 : + 14.0 : 450 : 4.50 : + 0.10
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever position degree tolerance degree	: 0.50 : + 0.50 : 1030 : 4.0 : + 4.0 : + 4.0	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity	: + 10.0 : + 14.0 : 450 : + 0.10 : 18.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever position degree	: 0.50 : + 0.50 : 1030 : 4.0 : + 4.0 : + 4.0	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: + 10.0 : + 14.0 : + 450 : + 0.10 : 18.0 : + 3.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever position degree tolerance degree Setting point w/o	: 0.50 : + 0.50 : 1030 : 81.0 : + 4.0 : 4.0 out bumper spring : 450	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 10.0 : + 14.0 : 450 : + 0.10 : 18.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm	: 0.50 : + 0.50 : 1030 : 81.0 : + 4.0 : 4.0 out bumper spring : 450 : 4.00	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: + 10.0 : + 14.0 : + 450 : + 0.10 : 18.0 : + 3.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever position degree tolerance degree Setting point w/o	: 0.50 : + 0.50 : 1030 : 81.0 : + 4.0 : 4.0 out bumper spring : 450	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: + 10.0 : + 14.0 : 450 : + 0.10 : 18.0 : + 3.0 : + 6.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Tolerance mm	: 0.50 : + 0.50 : 1030 : 81.0 : + 4.0 : 4.0 out bumper spring : 450 : 4.00 : + 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: + 10.0 : + 14.0 : 450 : + 0.10 : 18.0 : + 3.0 : + 6.0
rack travel mm rack travel mm Tolerance mm Rated speed rpm LOW IDLE control lever position degree tolerance degree control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm	: 0.50 : + 0.50 : 1030 : 81.0 : + 4.0 : 4.0 out bumper spring : 450 : 4.00 : + 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: + 10.0 : + 14.0 : 450 : + 0.10 : 18.0 : + 3.0 : + 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 19.08.98

Test oil

: ISO 4113

Combination No. : F 002 A0Z 097

Injection pump

Pump designation : PES6A100b320/3RS3517

EP type number : F 002 A10 036

Governor

Governer design. : RSV550...750A7C983R

Governer no. : F 002 A20 027

Cust. part No. :

Customer-spec. information

Customer : TATA Motor

Power KW

: 6BT

: 86.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 9 451 037 430

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : +- 1.0

Prestroke mm : 2.90 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: **←** 0.50

Check

tolerance °NW

: +- 0.75

Start of delivery blocking

 $^{\circ}$ NW after s.o.d. : 9.00

Tolerance : \leftarrow 0.10

Check

tolerance °NW

: +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 730

Rack travel in mm : 12.20 Tolerance mm : \leftarrow 0.05 Rack travel in mm: 6.45 Tolerance mm : +- 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x: 4.25 CONTROL LEVER control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.20
Rated speed rpm : 750
Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 795 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 810 Tolerance 1/min : +- 10

control lever position degree : 81.0 tolerance degree : + 4.0 Control lever difference Grad : 13.0 tolerance degree : +- 6.0 Setting point w/out bumper spring Rated speed rpm : 550 rack travel mm : 5.45 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 550 rack travel mm : 6.45 Tolerance mm : +- 0.10 rack travel mm : 2.00
Rated speed rpm : 600
Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 730 rack travel mm : 12.20 Tolerance mm : +- 0.05 Rated speed rpm : 750 rack travel mm : 11.20 Tolerance mm : +- 0.20 FUEL DELIVERY CHARACTERISTICS STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 12.70 Tolerance mm : +- 0.50

LOW IDLE

LOW IDLE

Rack travel in mm : 6.45 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 11.06.97 : ISO 4113

Combination No. : 0 402 066 702AA

Injection pump

Pump designation : PES6P110A120RS3336

: -1 EP type number : 0 412 016 751

Governor

Governer design. : RSV550...1100P2A586

: -1

Governer no.

: 0 421 833 580

Cust. part No. : 3933640

Customer-spec. information Customer : CDC : 6CTA Motor

Power KW

: 194.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 015

G17

Outside diameter : 6.0

x inside diameter : 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

17.0 Test pressure bar : Tolerance bar : \leftarrow 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : **←** 0.75

Start of delivery blocking

°NW after s.o.d. : 8.00 Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel 15.00 Difference ° CS : 1.50

	+
	governor spring
BASIC SETTING	<pre>pre-tension click setting x : 3.00</pre>
Rated speed rpm : 900	
2/ 35	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 14.75 Tolerance mm : +- 0.05	Rated speed rpm : 900 Aneroid pressure
Del. quantity cm3/1000 strokes : 201.5	+ hPa : 1500 + Del. quantity
Tolerance	+ cm3/1000 strokes : 201.5 + Tolerance + cm3/1000 strokes : + 1.0
cm3/1000 strokes : +- 1.0	- Check tolerance
Check tolerance cm3/1000s. : +- 3.0	+ cm3/1000s. : +- 3.0 + Spreed + Tolerance
Spreed	+ cm3/1000 strokes : 8.0 + Check tolerance
Tolerance cm3/1000 strokes : 8.0	cm3/1000s. : 12.0
Check tolerance cm3/1000s. : 12.0	CONTROL LEVER
	t control lever + position degree : 88.0
Rated speed rpm : 550	tolerance degree : + 4.0
Rack travel in mm : 5.10 Tolerance mm : + 0.10	RATED SPEED + rack travel mm : 13.75
Del. quantity cm3/1000 strokes : 26.5	Rated speed rpm : 1010 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : + 2.0	+ rack travel mm : 4.00
Check tolerance cm3/1000s. : +- 4.5	+ Rated speed rpm : 1075 + Tolerance 1/min : +- 5
Spreed Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 4.0 Check tolerance	Tolerance mm : + 0.55 Rated speed rpm : 1130
cm3/1000s. : 6.5	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1090 Tolerance 1/min : +- 15
CHAR CLED'E DOCTTON	LOW IDLE
GUIDE SLEEVE POSITION	T COM TOTE
control lever	control lever
position degree : -3 Rated speed rpm : 800	position degree : 72.0tolerance degree : +- 4.0
Rack travel in mm : 0.80 Tolerance mm : + 0.50	Control lever difference Grad: 16.0
TO CET OILUE TIRII . ' U.JU	, 10.0

tolerance degree : +- 6.0 Setting point w/out bumper spring Rated speed rpm 550 rack travel mm 4.60 Rated speed rpm : 100 CRT mm min. : > 19.00Testing: Rated speed rpm : 550 rack travel mm : 5.10 : +- 0.10 Tolerance mm TORQUE CONTROL 900 Rated speed rpm : rack travel mm : 14.75 Tolerance mm : + 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 900 Pressure hPa 1500 900 Rated speed rpm : Pressure hPa : rack travel mm : 11.10 : +- 0.20 Tolerance mm MEASUREMENT Rated speed rpm 900 995 Pressure hPa 13.45 rack travel mm : + 0.20 Tolerance mm : 655 Pressure hPa rack travel mm : 12.05 Tolerance mm : \leftarrow 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 900
Del. quantity
cm3/1000 strokes : 123.5

Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.00
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 154.0
Tolerance
cm3/1000 strokes : + 20.0
Check tolerance
cm3/1000s. : + 25.0

LOW IDLE

Rated speed rpm : 550 Rack travel in mm : 5.10 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 26.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000S. : +--4.5 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 6.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.09.97 Test oil

Combination No. : 0 402 736 866AA

Injection pump

Pump designation : PES6P120A120RS7349

EP type number : 0 412 726 920

Governor

Governer design. : RQV400...1250PA1171K

Governer no. : 0 421 815 437

Cust. part No. : 3933299

Customer-spec. information Customer : CDC Motor : 6BTA-A : 156.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm : 12.50

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

°NW after s.o.d. : 6.00 Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.95

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 177.0	+ Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance
Tolerance cm3/1000 strokes : + 1.0	+ cm3/1000s. : +- 4.0 + Spreed + Tolerance
Check tolerance cm3/1000S. : +- 4.0	cm3/1000 strokes : 8.0 Check tolerance
Spreed	+ cm3/1000s. : 12.0
Tolerance	İ
cm3/1000 strokes : 8.0	CONTROL LEVER
Check tolerance : 12.0	control lever position degree : 120.0 tolerance degree : + 4.0
	+ RATED SPEED
Rated speed rpm : 420	rack travel mm : 12.90
	+ Rated speed rpm : 1320
Rack travel in mm: 5.60	+ Tolerance 1/min : + 15
Tolerance mm : +- 0.20	+ Check
Del. quantity cm3/1000 strokes : 18.0	+ speed 1/min : +- 20
Tolerance	rack travel mm : 4.00
cm3/1000 strokes : +- 3.0	+ Rated speed rpm : 1475
Check tolerance	+ Tolerance 1/min : +- 5
$cm3/1000s$. : \leftarrow 5.0	+ Check
Spreed Tolerance	+ speed 1/min : +- 10
cm3/1000 strokes : 4.0	rack travel mm : 0.50
Check tolerance	+ Tolerance mm : + 0.50
cm3/1000s. : 8.0	+ Rated speed rpm : 1550
	†
(B) SETTING OF INJECTION PUMP	I
WITH GOVERNOR	<u> </u>
	+ LOW IDLE
	†
GUIDE SLEEVE POSITION	+ control lever
GOIDE SEELVE FOSTFION	position degree : 72.0
	tolerance degree : +- 4.0
control lever	Control layer difference
position degree : - 1 Rated speed rpm : 1410	Control lever difference Grad: 48.0
Nated speed (pii) . 1410	tolerance degree : + 6.0
Rack travel in mm : 13.00	+
Tolerance mm : + 2.00	+ Setting point w/out bumper spring
	Rated speed rpm : 300
FULL LOAD DELIVERY AT FULL LOAD STOP	Tracea opeca i piii
	+ CRT mm min. : > 8.90
Rated speed rpm : 1250	+ +
Aneroid pressure hPa : 800	+ Testing:
hPa : 800 Del. quantity	Rated speed rpm : 420
cm3/1000 strokes : 177.0	rack travel mm : 5.60
	Tolerance mm : +- 0.20

Rated speed rpm	: 420	+ hPa + Rated	speed rpm	: 800 : 800
TORQUE CONTROL Rated speed rpm	. 1250	+ cm3/10 + Tolera	quantity 000 strokes	: 132.0
rack travel mm Tolerance mm	: 13.95	+ cm3/10	000 strokes tolerance	: +- 3.0
			000s.	: +- 6.0
Rated speed rpm rack travel nam Tolerance mm	: 12.00 : +- 0.10		000 strokes	: 8.0
Rated speed rpm rack travel mm Tolerance mm	: 10.90	+ cm3/10	tolerance 000s.	
		rack to	travel mm ance mm	: 10.90 : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST		+		
		1 .	id pressure	• -
SETTING		Rated	speed rpm quantity	
Rated speed rpm	: 1250	+ cm3/10	000 strokes	: 71.5
Pressure hPa	: 800	† Tolera	ance 300 strokes	· + 2 N
Rated speed rpm	: 1250		tolerance	. — 2.0
Pressure hPa	• -	+ cm3/10	000s.	: +- 4.0
rack travel mm Tolerance mm	: 9.00 : +- 0.20	‡		
MEASUREMENT		START	ING FUEL DELI	VERY
Rated speed rpm	: 1250	Rated	speed rpm travel mm ance mm quantity	: 100
Pressure hPa	• 520	+ rack t	travel mm	: 12.50 · +- 0.50
rack travel mm	: 12.90	Del. o	guantity	. 1 0.50
Tolerance mm	: +- 0.30	+ cm3/10	JUU strokes	: 155.0
Pressure hPa	. 2/0	+ Tolera	ance 300 strokes	, ₄₋ 20 0
rack travel mm	: 10.30		tolerance	: + 20.0
Tolerance mm	: +- 0.20	cm3/10		: 25.0
Start interlock		+		
Rated speed rpm	: > 100	LOW IC	PLE	
Rated speed rpm	: < 330	‡ Rated	speed rpm	: 420
Check		+		
speed 1/min Check	: > 80	· · · · · · · · · · · · · · · · · · ·	ravel in mm : ance mm	: 5.60 : +- 0.20
speed 1/min	: < 340	+ Del. o	quantity 100 strokes	
FUEL DELIVERY CHA	RACTERISTICS	─────────── 	nce	: +- 3.0
			tolerance	: +- 5.0
		Spreed		

Tolerance : 4.0 Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.08.98 : ISO 4113

Combination No. : 0 403 466 177

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV450...1100MW0A413

Governer no. : 0 420 085 304

Cust. part No. : 3931283

Customer-spec. information Customer : CDC : 6 CT : 123.0 Motor Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50 Tolerance : \leftarrow 0.50

Check

tolerance "NW : \leftarrow 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel 15.00 Difference ° CS : 2.00

	governor spring
BASIC SETTING	+ pre-tension
Rated speed rpm : 1100	click setting x : 3.75
Rated speed rpm : 1100	I
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 10.35	+
Tolerance mm : +- 0.05	+ Rated speed rpm : 1100
Dal guardity	+ Aneroid pressure + hPa : 1200
Del. quantity cm3/1000 strokes : 120.5	Del. quantity
01101 1000 101 0RC3 . 1C0.5	- cm3/1000 strokes : 120.5
Tolerance	+ Tolerance
$cm3/1000$ strokes : \leftarrow 1.0	+ cm3/1000 strokes : + 1.0
Check tolerance	+ Check tolerance + cm3/1000s. : + 4.0
cm3/1000s. : +- 4.0	Spreed 4.0
1107 100001	+ Tolerance
Spreed	+ cm3/1000 strokes : 4.0
	+ Check tolerance
Tolerance cm3/1000 strokes : 4.0	+ cm3/1000s. : 7.5
cms/ rudu strokes : 4.0	I
Check tolerance	
cm3/1000s. : 7.5	+ CONTROL LEVER
	+
	+ control lever
Rated speed rpm : 450	+ position degree : 96.0 + tolerance degree : + 4.0
rated speed rail . 450	T totalite degree . 1- 4.0
Rack travel in mm: 5.50	+ RATED SPEED
Tolerance mm : +- 0.10	+ rack travel mm : 9.35
Del. quantity	+ Rated speed rpm : 1175
cm3/1000 strokes : 23.0 Tolerance	Tolerance 1/min : +- 5 + Check
cm3/1000 strokes : +- 2.0	speed 1/min : + 10
Check tolerance	+
cm $3/1000$ s. : $+-$ 4.5	+ rack travel mm : 4.00
Spreed	+ Rated speed rpm : 1275
Tolerance cm3/1000 strokes : 3.5	+ Tolerance 1/min : + 5 + Check
Check tolerance	speed 1/min : + 10
cm3/1000s. : 5.5	+
	+ rack travel mm : 1.00
(D) OFTITALS OF TALLECTION DUMP	+ Tolerance mm : + 0.70
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1450
WATER CONTENTION	rack travel mm : 4.00
	+ Rated speed rpm : 1285
	+ Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	+ Check
	+ speed 1/min : + 20
control lever	+
position degree : - 3	+
Rated speed rpm : 800	+
Deals Annual in the Co. C. E.C.	+ LOW IDLE
Rack travel in mm : 0.50 Tolerance mm : + 0.20	İ
TOLET GIVE HAN . TO U.ZU	T

control lever position degree tolerance degree	: 83.0 : + 4.0
Control lever dit Grad tolerance degree	: 13.0
Setting point w/c	out bumper spring
Rated speed rpm rack travel mm Tolerance mm	: 450 : 5.00 : +- 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 450 : 5.50 : +- 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 10.35 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 10.70 : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1200
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 10.80 : + 3.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm	: 590 : 11.10

Pressure hPa	: 545
rack travel mm	: 10.90
Tolerance mm	: ← 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	4200
hPa Rated speed rpm	: 1200 : 700
Del. quantity	
cm3/1000 strokes	: 140.0
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: +- 5.0
Spreed	
Tolerance cm3/1000 strokes	: 6.0
Check tolerance	. 0.0
cm3/1000s.	: 9.0
rack travel mm	: 10.70
Tolerance mm	: +- 0.20
Aneroid pressure	
nPa	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 122.5
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance	, - 1.0
cm3/1000s.	: +- 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm	: 20.50 : +- 1.00
Tolerance mm Del. guantity	. — 1.00
cm3/1000 strokes	: 177.0
Tolerance	10 0
cm3/1000 strokes Check tolerance	: +- 10.0
cm3/1000s.	: +- 13.0

Rated speed rpm	:		450
Rack travel in mm. Tolerance mm	:	+	5.50 0.10
Del. quantity cm3/1000 strokes Tolerance	:		23.0
cm3/1000 strokes Check tolerance	:	+-	2.0
cm3/1000S.	:	+-	4.5
Tolerance	:		3.5
Check tolerance cm3/1000s.	:		5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 21.08.98 : ISO 4113

Combination No. : 0 403 466 183

Injection pump

Pump designation : PES6MW100/120RS1247

EP type number : 0 413 406 248

Governor

Governer design. : RSV550...1100MW5A414

Governer no. : 0 420 085 305

Cust. part No. : 3935478

Customer-spec. information Customer : CDC Motor : 6 CTA Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0Tolerance bar : \leftarrow 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

x length mm : 600

2.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.20 : +- 0.05 Tolerance mm Check tolerance mm : **←** 0.10

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 8.50 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel 15.00 Difference ° CS : 1.50

	†
BASIC SETTING	<pre>—</pre>
Rated speed rpm : 1100	click setting x : 4.00
Rack travel in mm : 13.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.05	Rated speed rpm : 1100 Aneroid pressure
Del. quantity cm3/1000 strokes : 163.0	+ hPa : 1200 + Del. quantity - cm3/1000 strokes : 163.0
Tolerance cm3/1000 strokes : +- 1.0	Tolerance + cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s. : +- 4.0	+ Check tolerance - cm3/1000s. : +- 4.0 - Spreed
Spreed	
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	CONTROL LEVER
Rated speed rpm : 550	control lever position degree : 103.0 tolerance degree : +- 4.0
	+
Rack travel in mm : 5.05 Tolerance mm : +- 0.10	+ RATED SPEED + rack travel mm : 12.20
Del. quantity	Rated speed rpm : 1185
cm3/1000 strokes : 23.0 Tolerance	+ Tolerance 1/min : +- 5 + Check
cm3/1000 strokes : +- 2.0 Check tolerance	speed 1/min : +- 10
: +- 4.5	rack travel mm : 8.00
preed olerance	+ Rated speed rpm : 1225 + Tolerance 1/min : +- 5
m3/1000 strokes : 3.5	Check
heck tolerance m3/1000s. : 5.5	+ speed 1/min : +- 10 +
	rack travel mm : 1.00 Tolerance mm : +- 0.70
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1350
	rack travel mm : 8.00 Rated speed rpm : 1225
GUIDE SLEEVE POSITION	
control lever	+ .
position degree : - 3 Rated speed rpm : 800	<u> </u>
, .	LOW IDLE
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	‡

H01

control lever position degree : 79.0 tolerance degree : +- 4.0 Control lever difference Grad : 24.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 550 rack travel mm : 4.55 : +- 0.10 Tolerance mm Rated speed rpm : 100 CRT mm min. : > 19.00Testing: Rated speed rpm : 550 rack travel mm : 5.05 Tolerance mm : + 0.10 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.20 Tolerance mm : \leftarrow 0.05 Rated speed rpm : 750 rack travel mm : 13.55 Tolerance mm : \leftarrow 0.20 Rated speed rpm : 1000 rack travel mm : 13.55 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1200 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 11.05 Tolerance mm : +- 0.20 MEASUREMENT 500 Rated speed rpm : Pressure hPa : 900

Tolerance mm : + 0.20 Pressure hPa : 560 rack travel mm : 11.80 Tolerance mm : \leftarrow 0.20 FUEL DELIVERY CHARACTERISTICS Aneroid pressure : 1200 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 170.5 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 Aneroid pressure Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 119.5 Tolerance cm3/1000 strokes : \leftarrow 1.0 Check tolerance cm3/1000s. : +- 3.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 1.00 Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : \leftarrow 10.0 Check tolerance cm3/1000s. : +- 13.0 LOW IDLE Rated speed rpm : 550 Rack travel in mm : 5.05

Tolerance mm : \leftarrow 0.10

H02

rack travel mm :

13.30

Del. quantity cm3/1000 strokes	:	23.0
Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +-	4.5
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	3.5
cm3/1000S.	:	5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 26.08.98 : ISO 4113

Combination No. : 0 402 018 703

Injection pump

Pump designation : PES8P130A300RS3403 EP type number : 0 412 038 700

Governor

Governer design. : Governer no.

Cust. part No. :

Customer-spec. information

Customer : FINCANTIERI : V 1308T3 Motor : 520.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 : +- 0.1 Tolerance bar

Overflow quantity

min. l/h : 200 Tolerance l/h : \leftarrow 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.45 Tolerance mm : ← 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 15.50 Tolerance mm : + 0.50

Firing order : 1-2-7-8-4

: - 5- 6- 3

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.50

Tolerance Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 14.00

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 288.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.	: +- 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000S.	: 9.0
Rated speed rpm Del. quantity	: 350
cm3/1000 strokes	: 39.0
Tolerance cm3/1000 strokes	: 3 .0
Check tolerance cm3/1000s.	: ← 6.0
Spreed Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP

FULL LOAD DELIVER	RY AT F	ULL LOAD STO)P
Rated speed rpm	:	750	
Aneroid pressure			
hPa Del. quantity	:	-	
cm3/1000 strokes	:	288.0	
Tolerance cm3/1000 strokes		1.0	
Check tolerance	–	1.0	
cm3/1000s.	: +-	4.0	
Spreed Tolerance			
cm3/1000 strokes	:	5.0	
Check tolerance cm3/1000s.		9.0	

TORQUE CONTROL
Rated speed rpm : 750
rack travel mm : 14.00
Tolerance mm : + 0.05

LOW IDLE		
Rated speed rpm	:	350
Del. quantity cm3/1000 strokes	:	39.0
Tolerance cm3/1000 strokes	: 4	⊢ 3.0
Check tolerance cm3/1000S. Spreed	: 1	⊢ 6.0
U 1000 U. U. U. U.	:	8.0
Check tolerance cm3/1000S.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 21.08.98 : ISO 4113

Combination No. : 0 402 046 883

Injection pump

Pump designation : PES6P120A1320/5LS339

: 9

EP type number : 0 412 026 808

Governor

Governer design. : RQ750PA1387

Governer no. : 0 421 801 834

Cust. part No. : 1409259

Customer—spec. information

Customer : SCANIA

Motor

: DSC12 40A

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C : +- 2.0

Overflow valve : 2 417 413 079

Inlet press. bar : 2.5

Tolerance bar : + 0.1

Tolerance l/h : +- 20.0

Test nozzle holde

assembly

: 1 688 901 104

Opening pressure

: 251.5

bar Tolerance bar : +- 1.5

Test lines : 1 680 750 008

H06

Outside diameter : 6.0

x inside diameter :

2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50

Tolerance mm : + 0.50

Firing order : 1- 4- 2- 6- 3-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance °NW

: +- 0.75

Start of delivery blocking

"NW after s.o.d. : 180.00

Tolerance

: **←** 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

700

Rack travel in mm : 12.00

Tolerance mm : \leftarrow 0.05

		1
Del. quantity cm3/1000 strokes	: 190.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm3/1000 strokes	: +- 1.0	Aneroid pressure hPa : 1500 Del. quantity
Check tolerance cm3/1000s.	: +- 8.0	cm3/1000 strokes : 190.0 + Tolerance + cm3/1000 strokes : + 1.0
Spreed		+ Check tolerance + cm3/1000s. : + 8.0
Tolerance cm3/1000 strokes	: 8.0	Spreed - Tolerance - cm3/1000 strokes : 8.0
Check tolerance cm3/1000s.	: 12.0	Check tolerance cm3/1000s. : 12.0

Del. quantity cm3/1000 strokes	: 20.0	CONTROL LEVER
Tolerance cm3/1000 strokes Check tolerance	: ← 3.0	<pre>control lever position degree : 26.0 tolerance degree : + 4.0</pre>
cm3/1000S. Spreed Tolerance	: +- 6.0	+ control lever + position degree : 88.0
cm3/1000 strokes Check tolerance cm3/1000s.		tolerance degree : +- 4.0
CM3/10003.	: 8.0	ASSEMBLY GOVERNOR SETTING
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	Rated speed rpm : 748 rack travel mm : 11.00
GUIDE SLEEVE TRAV	/EL	Rated speed rpm : 772 Tolerance 1/min : +- 4 rack travel mm : 4.00
Rated speed rpm	: 758	+
guide sleeve travel mm	: 4.63	+ rack travel mm : 0.85 + Tolerance mm : + 0.55
Tolerance mm	: +- 0.15	+ Rated speed rpm : 850
Rated speed rpm Rated speed rpm	: 480 : 840	Rated speed rpm : 749 rack travel mm : 11.00
guide sleeve travel mm	: 18.07	+ Rated speed rpm : 773
Tolerance mm	: - 0.25	Tolerance 1/min : + 4 + rack travel mm : 4.00
Rated speed rpm guide sleeve	: 798	rack travel mm : 0.85
travel mm Tolerance mm	: 10.00 : ← 0.25	Tolerance mm : + 0.55 Rated speed rpm : 850
Rated speed rpm guide sleeve	: 850	Rated speed rpm : 750
travel mm Tolerance mm	: 11.50 : +- 0.50	rack travel mm : 11.00

H07

Rated speed rpm : 774 Tolerance 1/min : + 4 rack travel mm : 4.00	+ Tolerance mm : + 0.05
rack travel mm : 0.85	ANEROID/ALTITUDE COMPENSATOR TEST
Tolerance mm : +- 0.55 Rated speed rpm : 850	SETTING
Rated speed rpm : 751 rack travel mm : 11.00	Rated speed rpm : 500 Pressure hPa : 1500 rack travel mm : 12.00
Rated speed rpm : 775 Tolerance 1/min : + 4 rack travel mm : 4.00	Tolerance mm : +- 0.05 Rated speed rpm : 500
rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 850	Pressure hPa : - rack travel mm : 10.00 Tolerance mm : +- 0.20
	MEASUREMENT
Rated speed rpm : 752 rack travel mm : 11.90	Rated speed rpm : 500 Pressure hPa : 560
Rated speed rpm : 776 Tolerance 1/min : +- 4 rack travel mm : 4.00	+ rack travel mm : 10.60 + Tolerance mm : +- 0.15
rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 850	Pressure hPa : 750 rack travel mm : 11.50 Tolerance mm : + 0.05
Dated around from . 950	1
Kateu speeu (piii . 650	<u> </u>
Rated speed rpm : 753 rack travel mm : 11.00	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 753 rack travel mm : 11.00 Rated speed rpm : 777 Tolerance 1/min : +- 4	Aneroid pressure hPa : -
Rated speed rpm : 753 rack travel mm : 11.00 Rated speed rpm : 777 Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.85	Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 142.5
Rated speed rpm : 753 rack travel mm : 11.00 Rated speed rpm : 777 Tolerance 1/min : + 4 rack travel mm : 4.00	Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 142.5
Rated speed rpm : 753 rack travel mm : 11.00 Rated speed rpm : 777 Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.85 Tolerance mm : + 0.55	Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 142.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Rated speed rpm : 753 rack travel mm : 11.00 Rated speed rpm : 777 Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 850	Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 142.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Rated speed rpm : 753 rack travel mm : 11.00 Rated speed rpm : 777 Tolerance 1/min : + 4 rack travel mm : 4.00 rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 850 LOW IDLE control lever position degree : 68.0	Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 142.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0

Tolerance

cm3/1000 strokes : 4.0

Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 25.08.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 048 708

Injection pump

Pump designation : PES8P120A320RS3401 EP type number : 0 412 028 709

Governor

Governer design. : RQV350...1400PA1028

Governer no. : 0 421 813 987

Cust. part No. :

Customer-spec. information

Customer : FINCANTIERI
Motor : 1308 V

Power KW : 500.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 100 Tolerance l/h : +- 20.0

Test nozzle holde assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-2A- 7-8A - 4-5A

: - 6

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 13.10 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 288.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s.	: +- 4.0	<u> </u>
Spreed		+ GUIDE SLEEVE POSITION
52. 00 2		į.
Tolerance cm3/1000 strokes	: 5.0	control lever position degree : - 1 Rated speed rpm : 1465
Check tolerance cm3/1000s.	: 9.0	Rack travel in mm : 14.30 Tolerance mm : + 1.30
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: ← 0.10 : 20.0 : ← 3.0 : ← 6.0 : 8.0	Rated speed rpm : 750 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 288.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	CONTROL LEVER
GUIDE SLEEVE TRAV	FI	t control lever
Rated speed rpm		position degree : 116.0 tolerance degree : +- 4.0
guide sleeve		†
travel mm Tolerance mm	: 8.38 : +- 0.15	+ RATED SPEED + rack travel mm : 12.10 + Rated speed rpm : 1395
Rated speed rpm guide sleeve	: 350	† Tolerance 1/min : ← 5
travel mm Tolerance mm	: 1.56 : ← 0.20	rack travel mm : 4.00 Rated speed rpm : 1580 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve	: 915	+ rack travel mm : 0.50
travel mm Tolerance mm	: 5.32 : +- 0.25	Tolerance mm : + 0.50 Rated speed rpm : 1750
Rated speed rpm guide sleeve	: 520	<u> </u>
travel mm Tolerance mm	: 3.41 : ← 0.25	LOW IDLE
Rated speed rpm guide sleeve	: 1750	control lever
travel mm Tolerance mm	: 11.50 : +- 0.50	<pre>position degree : 68.0 tolerance degree : + 4.0</pre>

Setting point w/out bumper spring

Rated speed rpm : 250

CRT mm min. : > 6.20

Testing:

Rated speed rpm : 350 rack travel mm : 4.20 Tolerance mm : ← 0.10

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 750 rack travel mm : 13.10 Tolerance mm : + 0.05

Rated speed rpm : 1350 rack travel mm : 13.10 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 13.10
Tolerance mm : + 0.05

Rated speed rpm : 50
Pressure hPa : rack travel mm : 10.00
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 350 rack travel mm : 11.00 Tolerance mm : +- 0.20

Pressure hPa : 400 rack travel mm : 12.00 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000 Rated speed rpm : 1350

Del. quantity

cm3/1000 strokes : 243.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting.

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 490.0

Tolerance

cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 25.0

LOW IDLE

Delivery for standard plunger/barrel assemblies.

Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm : 350

Rack travel in mm : 4.20Tolerance mm : $\leftarrow 0.10$

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 26.11.97 : ISO 4113

Combination No. : 0 402 076 810

Injection pump

Pump designation : PES6P120A720RS3340

EP type number : 0 412 026 773

Governor

Governer design. : RSV650...1050P8A566

: -4

Governer no.

: 0 421 833 583

Cust. part No. : 87801590

Customer-spec. information

Customer

: NH

Motor

: EP 040 B

Power KW

: 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

208.5

Tolerance bar : \leftarrow 1.5

Test lines

: 1 680 750 089

Outside diameter : 8.0

H14

x inside diameter : x length mm : 600

3.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

3.60 Prestroke mm

: +- 0.05 Tolerance mm

Check tolerance mm

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 4

: +- 0.10

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW

: +- 0.75

Start of delivery blocking

Check

tolerance "NW : \leftarrow 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

1025

Rack travel in mm : 12.35

Tolerance mm : +- 0.05	+ Rated speed rpm : 1025
Del. quantity	+ Aneroid pressure + hPa : 1600
cm3/1000 strokes : 183.0	+ Del. quantity
	+ cm3/1000 strokes : 183.0
Tolerance	+ Tolerance + cm3/1000 strokes : +- 1.0
$cm3/1000 \text{ strokes}$: \leftarrow 1.0	+ Check tolerance
Check tolerance	+ cm3/1000s. : +- 6.0
cm3/1000s. : +- 6.0	Spreed
Cd	+ Tolerance + cm3/1000 strokes : 5.0
Spreed	+ cm3/1000 strokes : 5.0 + Check tolerance
Tolerance	+ cm3/1000s. : 9.0
cm3/1000 strokes : 5.0	+
	+
Check tolerance cm3/1000s. : 9.0	CONTROL LEVER
(11157 10003 7.0	T CONTROL ELVER
	+ control lever
	position degree : 95.0
Rated speed rpm : 650	1
Rack travel in mm : 4.60	ASSEMBLY GOVERNOR SETTING
Tolerance mm : + 0.10	+
Del. quantity	+ Rated speed rpm : 1067
cm3/1000 strokes : 23.0	rack travel mm : 11.30
Tolerance cm3/1000 strokes : +- 3.0	Rated speed rpm : 1097
Check tolerance	Tolerance 1/min : + 5
cm3/1000s. : + 6.0	+ rack travel mm : 4.00
Spreed	+
Tolerance 8.0	+ rack travel mm : 0.85
cm3/1000 strokes : 8.0 Check tolerance	+ Tolerance mm : + 0.55 + Rated speed rpm : 1300
cm3/1000s. : 12.0	Hatta speed I pini . 1300
	+
4-1	+ Rated speed rpm : 1068
(B) SETTING OF INJECTION PUMP	rack travel mm : 11.30
WITH GOVERNOR	Rated speed rpm : 1098
	+ Tolerance 1/min : +- 5
	rack travel mm : 4.00
GUIDE SLEEVE POSITION	rack travel mm : 0.85
	+ Tolerance mm : + 0.55
control lever	+ Rated speed rpm : 1300
position degree : - 3	+
Rated speed rpm : 800	10/0
Dook though in man. 0.50	Rated speed rpm : 1069 rack travel mm : 11.30
Rack travel in mm : 0.50 Tolerance mm : + 0.20	T TACK CLAVEC MAIL . 11.50
TO COLOR WITH THE COLOR	Rated speed rpm : 1099
governor spring	+ Tolerance 1/min : +- 5
pre-tension	rack travel mm : 4.00
click setting x : 2.50	+ rack travel mm : 0.85
	+ Tolerance mm : + 0.55
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated speed rpm : 1300

Rated speed rpm	: 1070
rack travel mm	: 11.30
Rated speed rpm Tolerance 1/min rack travel mm	: ← 5
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1071
rack travel mm	: 11.30
Rated speed rpm	: 1101
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1072
rack travel mm	: 11.30
Rated speed rpm	: 1102
Tolerance 1/min	: ← 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1300
LOW IDLE	
control lever position degree	: 76.0
Setting point w/c	out bumper spring
Rated speed rpm	: 650
rack travel mm	: 4.10
Tolerance mm	: + 0.10
Testing:	
Rated speed rpm	: 650
rack travel mm	: 4.60
Tolerance mm	: +- 0.10

Rated speed rpm rack travel mm Tolerance mm	: 1025 : 12.35 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.05 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 650 : 13.10 : +- 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1600 : 13.10 : ← 0.15
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : − : 7.80 : ← 0.15
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 980 : 11.60 : +- 0.10
Start interlock	
Rated speed rpm	: > 100
Check speed 1/min	: > 80
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1600 : 750
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	
cm3/1000s.	: - 6.0

rack travel mm : 13.10 Tolerance mm : + 0.15

Aneroid pressure

hPa 500 Rated speed rpm : Del. quantity

cm3/1000 strokes : 86.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 4.0 cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 150.0

Tolerance cm3/1000 strokes : +- 15.0

Check tolerance : +- 19.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 650

Rack travel in mm: 4.60 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : **←** 6.0

Spreed

Tolerance

8.0 cm3/1000 strokes :

Check tolerance

: 12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.08.98 Test oil : ISO 4113

Combination No. : 0 402 646 675

Injection pump

Pump designation : PE6P12OA32ORS7299 EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1337K

Governer no. : 0 421 815 554

Cust. part No. : 1322504/8

Customer—spec. information Customer : DAF

Motor : WS 268 M Power KW : 268.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : \leftarrow 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : \leftarrow 0.1

Overflow quantity

min. L/h : 140
Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.55 Tolerance mm : + 0.05

H18

+	guide sleeve
Del. quantity cm3/1000 strokes : 250.0	- travel mm : 3.34 - Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 1282 guide sleeve
Check tolerance cm3/1000S. : +- 4.0	travel mm : 12.00 Tolerance mm : +- 0.25
Spreed	Rated speed rpm : 1370 guide sleeve travel mm : 13.50
Tolerance cm3/1000 strokes : 5.0	Tolerance mm : + 0.50
Check tolerance cm3/1000s. : 9.0	GUIDE SLEEVE POSITION
 ‡	control lever position degree : - 1
Rated speed rpm : 275	Rated speed rpm : 1248
Rack travel in mm: 5.10 Tolerance mm: + 0.10 Del. quantity	Rack travel in mm : 12.80 Tolerance mm : +- 2.00
cm3/1000 strokes : 17.0 + Tolerance cm3/1000 strokes : + 3.0 + Tolerance cm3/1000 str	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000S. : +- 6.0	Rated speed rpm : 980 Aneroid pressure
Spreed + Tolerance +	hPa : - Del. quantity
cm3/1000 strokes : 8.0 + Check tolerance +	cm3/1000 strokes : 250.0 Tolerance
cm3/1000s. : 12.0	cm3/1000 strokes : +- 1.0 Check tolerance
(B) SETTING OF INJECTION PUMP	cm3/1000S. : +- 4.0 Spreed
WITH GOVERNOR	Tolerance cm3/1000 strokes : 5.0
<u> </u>	Check tolerance
GUIDE SLEEVE TRAVEL +	cm3/1000s. : 9.0
Rated speed rpm : 1047 + guide sleeve +	
travel mm : 7.35 +	CONTROL LEVER
Tolerance mm : + 0.15	control lever
Rated speed rpm : 275 + guide sleeve +	position degree : 110.0 tolerance degree : +- 4.0
travel mm : 2.04 +	-
Tolerance mm : +- 0.20	RATED SPEED rack travel mm : 12.55
Rated speed rpm : 820 + guide sleeve +	Rated speed rpm : 1042 Tolerance 1/min : +- 5
travel mm : 5.14 + Tolerance mm : + 0.25 +	rack travel mm : 4.00
+	Rated speed rpm : 1150
Rated speed rpm : 480 +	Tolerance 1/min : + 15

rack travel mm Tolerance mm Rated speed rpm	: 0.70 : +- 0.70 : 1250
LOW IDLE	
control lever position degree tolerance degree	: 75.0 : ← 4.0
Setting point w/c	out bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.10 : ← 0.10
Rated speed rpm	: 350
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 13.55
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.05 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.35 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 11.90 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 980 : 13.70 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm	: 980 : 1500 : 13.55

Tolerance mm	: +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 980 : - : 8.60 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 980
Pressure hPa rack travel mm Tolerance mm	: 720 : 12.25 : ← 0.05
Pressure hPa rack travel mm Tolerance mm	: 360 : 9.65 : ← 0.15
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
hPa	: -
Rated speed rpm	: 750
Del. quantity	
cm3/1000 strokes	: 263.0
Tolerance	
cm3/1000 strokes	: ← 2.0
Check tolerance	
cm3/1000s.	: ← 5.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000S.	: 12.0
(1137 10003.	. 12.0
rack travel mm	: 12.35
Tolerance mm	: + 0.10
Aneroid pressure	
hPa	: -
Rated speed rpm	: 600
Del. quantity	
cm3/1000 strokes	: 154.0
Tolerance	
cm3/1000 strokes	: +- 1.0
Check tolerance	: +- 4.0
cm3/1000s.	: + 4.0
LOW IDLE	·

H20

Rated speed rpm	:		275
Rack travel in mm Tolerance mm Del. quantity	:	+-	5.10 0.10
cm3/1000 strokes Tolerance	:		17.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s.	:	+-	6.0
Tolerance cm3/1000 strokes	:		8.0
Check tolerance cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.08.98 Test oil : ISO 4113

Combination No. : 0 402 744 803

Injection pump

Pump designation : PES4P120A320RS7312

: -1 EP type number : 0 412 724 803

Governor

Governer design. : RQV400...1200PA1131

: -1

Governer no. : 0 421 814 154

Cust. part No. : 51.11103-7470

Customer-spec. information

Customer : MAN
Motor : D0824 LFL 06
Power KW : 114.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity min. L/h : 110
Tolerance L/h : +- 10.0

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

: 208.5

H22

Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 13.00

Tolerance mm : +- 0.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.35

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 206.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +- 4.0	L - Rated speed rpm : 540 - guide sleeve
Spreed	- guide steeve - travel mm : 3.61 - Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : 8.0	Rated speed rpm : 1490 - quide sleeve
Check tolerance - 12.0 -	travel mm : 13.50 Tolerance mm : + 0.50
-	- GUIDE SLEEVE POSITION
Rated speed rpm : 400	
Rack travel in mm : 4.70 - Tolerance mm : +- 0.10 - Del. quantity - cm3/1000 strokes : 40.0 -	- control lever - position degree : - 1 - Rated speed rpm : 1330
Tolerance - cm3/1000 strokes : +- 3.0 - Check tolerance	Rack travel in mm : 12.00 Tolerance mm : +- 1.30
cm3/1000s. : +- 6.0 5preed	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm3/1000 strokes : 8.0 Check tolerance	- - Rated speed rpm : 1000 - Aneroid pressure
cm3/1000s. : 12.0	- hPa : 1200 - Del. quantity
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- cm3/1000 strokes : 206.0 - Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0
GUIDE SLEEVE TRAVEL	- Spreed - Tolerance
Rated speed rpm : 1261 guide sleeve	- cm3/1000 strokes : 8.0 - Check tolerance
travel mm : 10.15 + Tolerance mm : + 0.15 +	- cm3/1000s. : 12.0 -
Rated speed rpm : 400 guide sleeve	- CONTROL LEVER
travel mm : 1.57 + Tolerance mm : + 0.20 +	- - control lever
Rated speed rpm : 836	- position degree : 301.0 - tolerance degree : + 4.0
guide sleeve + 5.76 +	- RATED SPEED
Tolerance mm : + 0.25	- rack travel mm : 12.35 - Rated speed rpm : 1250
Rated speed rpm : 458 + guide sleeve +	Tolerance 1/min : + 8
travel mm : 2.45 Tolerance mm : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1340 Tolerance 1/min : +- 15
Rated speed rpm : 508 guide sleeve	- rack travel mm : 0.50
travel mm : 3.10 + Tolerance mm : + 0.25 +	· Tolerance mm : +- 0.50 · Rated speed rpm : 1480

LOW	IDL	E
-----	-----	---

control lever

position degree : 258.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

300 Rated speed rpm :

CRT mm min. : > 7.50

Testing:

400 Rated speed rpm rack travel mm 4.70 : +- 0.10 Tolerance mm

Rated speed rpm : 440

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 13.35 : **←** 0.05 Tolerance mm

Rated speed rpm : 1200 rack travel mm 13.35 : +- 0.10 Tolerance mm

Rated speed rpm : rack travel mm : 700 rack travel mm : 13.35 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 : 1200 Pressure hPa : 13.35 rack travel mm Tolerance mm : **←** 0.05

500 Rated speed rpm Pressure hPa 7.95 rack travel mm : +- 0.15 Tolerance mm

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 140 8.80 rack travel mm : **←** 0.15 Tolerance mm

Pressure hPa : 500 12.35 rack travel mm : : **←** 0.25 Tolerance mm

Start interlock

Rated speed rpm : < 280 Rated speed rpm :> 320

Check

speed 1/min : < 260 Check

speed 1/min : > 340

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 1200 Rated speed rpm : 1200 Del. quantity

cm3/1000 strokes : 208.0 Tolerance

cm3/1000 strokes : \leftarrow 3.0 Check tolerance

cm3/1000s. : **←** 6.0

Aneroid pressure

1200 Rated speed rpm : 700 rack travel mm : 13.35 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 218.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0 Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s.

: ← 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity

cm3/1000 strokes : 206.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 4.70
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 40.0
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s.

End of test specification sheet

12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.08.98 : ISO 4113 Test oil

Combination No. : 0 402 744 809

Injection bumb

Pump designation : PES4P120A320RS7312

: -1

EP type number : 0 412 724 803

Governor

Governer design. : RQV400...1200PA1397

Governer no. : 0 421 814 212

Cust. part No. : 51.11103-7579

Customer—spec. information

Customer : MAN

: D 0824 LOH 05 Motor

Power KW : 114.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 025

Inlet press. bar : 1.5 Tolerance bar : ← 0.1

Overflow quantity

min. l/h : 120
Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : : +-: +- 0.05

Check

: +- 0.10 tolerance mm

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.20 Tolerance mm : $\leftarrow 0.05$

Del. quantity

cm3/1000 strokes : 208.0

H26

Tolerance		guide sleeve
cm3/1000 strokes : +-	1.0	travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : +-	4.0	GUIDE SLEEVE POSITION
Spreed		Rated speed rpm : 1330
Tolerance cm3/1000 strokes :	8.0	Rack travel in mm : 12.20 Tolerance mm : +- 1.30
Check tolerance cm3/1000s. :	12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
		
Rated speed rpm :	400	Rated speed rpm : 1000 Aneroid pressure hPa : 1200
Rack travel in mm : Tolerance mm : +-		Del. quantity cm3/1000 strokes : 208.0
Del. quantity cm3/1000 strokes : Tolerance	40.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : +- Check tolerance	3.0	cm3/1000s. : +- 4.0 Spreed
cm3/1000s. : +- Spreed	6.0	Tolerance cm3/1000 strokes : 8.0
Tolerance cm3/1000 strokes : Check tolerance	8.0	Check tolerance cm3/1000s. : 12.0
cm3/1000s. :	12.0	
(B) SETTING OF INJECTIO	N PUMP +	CONTROL LEVER
WITH GOVERNOR	<u> </u>	control lever position degree : 302.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	1	RATED SPEED
Rated speed rpm : 1 guide sleeve travel mm :	+	rack travel mm : 12.20 Rated speed rpm : 1250 Tolerance 1/min : +- 5
Tolerance mm : +-	0.15	
Rated speed rpm : guide sleeve	+	rack travel mm : 4.00 Rated speed rpm : 1345 Tolerance 1/min : +- 15
travel mm : Tolerance mm : +-	2.21	rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : guide sleeve	+	Rated speed rpm : 1450
travel mm : +-	5.79 0.25	
Rated speed rpm : :	}	LOW IDLE
travel mm : : Tolerance mm : +-	3.53 0.25	control lever
Rated speed rpm : 1	490 ‡	position degree : 262.0 tolerance degree : +- 4.0

Setting point w/c	out bumper spring
Rated speed rpm	: 300
CRT mm min.	: > 7.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 400 : 4.70 : + 0.10
Rated speed rpm	: 425
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.20 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1200 : 13.20 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.20 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 13.20 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 8.95 : +- 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 450 : 11.80 : ← 0.20
Pressure hPa rack travel mm	: 200 : 9.40 : +- 0.20

Rated speed rpm Rated speed rpm	: > 290 : < 320
Check speed 1/min Check speed 1/min	: > 270 : < 340
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1200 : 700 : 13.20 : + 0.10 : 216.0 : + 3.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 215.0 : +- 15.0 : +- 19.0

LOW IDLE

Rated speed rpm : 400 Rack travel in mm: 4.70 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 40.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.08.98 Test oil : ISO 4113

Combination No. : 0 402 846 303

Injection pump

Pump designation : PE6P120A320LS8526

EP type number : 0 412 826 203

Governor

Governer design. : RQV325...1000PA1392K

Governer no. : 0 421 815 900

Cust. part No. :

Customer-spec. information

Customer : LIAZ

Motor : m1.2c m 640 se Power KW : 242.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 086

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity
min. l/h : 120
Tolerance l/h : + 20.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.33 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.25 Tolerance mm : \leftarrow 0.75

Firing order : 1-5-3-6-2-: 4

Phasing : 0-60-120-180-240

: -300 : +- 0 : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Tolerance

Rated speed rpm : 975

Rack travel in mm : 10.60

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 288.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: +- 4.0	‡
Spreed		GUIDE SLEEVE POSITION
Tolerance		Rated speed rpm : 1169
cm3/1000 strokes	: 5.0	Rack travel in mm : 9.60 Tolerance mm : +- 1.30
Check tolerance cm3/1000s.	: 9.0	
		+ FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 325	Rated speed rpm : 975 Aneroid pressure hPa : 1100
Rack travel in mm		Del. quantity
Tolerance mm Del. quantity	: +- 0.10	+ cm3/1000 strokes : 288.5 + Tolerance
cm3/1000 strokes Tolerance	: 25.0	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes	: ← 3.0	+ cm3/1000s. : +- 4.0
Check tolerance cm3/1000s.	: +- 6.0	+ Spreed + Tolerance
Spreed		+ cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes	: 8.0	+ Check tolerance + cm3/1000s. : 9.0
Check tolerance cm3/1000s.	: 12.0	‡
J. 10000	, ,,,,,	CONTROL LEVED
(B) SETTING OF IN	UECTION PUMP	CONTROL LEVER control lever
		<pre>position degree : 116.0 tolerance degree : +- 4.0</pre>
GUIDE SLEEVE TRAV	EL	+
Rated speed rpm	: 1036	+ RATED SPEED + rack travel mm : 9.60
guide sleeve	: 9.59	Rated speed rpm : 1015 Tolerance 1/min : +- 5
travel mm Tolerance mm	: +- 0.15	+
Rated speed rpm	: 325	rack travel mm : 4.00 Rated speed rpm : 1090
guide sleeve		Tolerance 1/min : +- 15
travel mm Tolerance mm	: 1.47 : +- 0.20	+ rack travel mm : 0.50
Rated speed rpm	: 760	Tolerance mm : +- 0.50 Rated speed rpm : 1200
guide sleeve travel mm	: 6.37	Ţ.
Tolerance mm	: +- 0.25	<u> </u>
Rated speed rpm guide sleeve	: 510	LOW IDLE
travel mm Tolerance mm	: 3.85 : +- 0.25	control lever
Rated speed rpm guide sleeve	: 1290	<pre>position degree : 70.0 tolerance degree : +- 4.0</pre>
travel mm Tolerance mm	: 13.50 : + 0.50	Setting point w/out bumper spring

Rated speed rpm		+ Check + speed 1/min : < 265
Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 4.50 : +- 0.10	Aneroid pressure hPa : 1100 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 314.5
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 10.60	Tolerance + cm3/1000 strokes : + 3.0 + Check tolerance + cm3/1000s. : + 6.0
Rated speed rpm rack travel mm Tolerance mm	: 10.80	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 225.0
ANEROID/ALTITUDE COMPENSATOR TEST		Tolerance cm3/1000 strokes : + 2.0 Check tolerance
SETTING		cm3/1000s. : +- 4.0
	A	\$
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : 10.60	STARTING FUEL DELIVERY Rated speed rpm : 100
Pressure hPa rack travel mm	: 1100 : 10.60 : +- 0.05 : 975 : - : 7.95	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 400.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 1100 : 10.60 : ← 0.05 : 975 : – : 7.95 : ← 0.10	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 400.0 Tolerance cm3/1000 strokes : +- 20.0
Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm	: 1100 : 10.60 : + 0.05 : 975 : - : 7.95 : + 0.10	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 400.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000S. : +- 24.0
Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 1100 : 10.60 : ← 0.05 : 975 : – : 7.95 : ← 0.10	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 400.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm	: 1100 : 10.60 : + 0.05 : 975 : - 7.95 : + 0.10 : 975 : 380 : 8.35	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 400.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0 LOW IDLE Rated speed rpm : 325 Rack travel in mm : 4.50 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 25.0
Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 1100 : 10.60 : + 0.05 : 975 : - : 7.95 : + 0.10 : 975 : 380 : 8.35 : + 0.20 : 590 : 10.00	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 400.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0 LOW IDLE Rated speed rpm : 325 Rack travel in mm : 4.50 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : +- 3.0
Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 1100 : 10.60 : + 0.05 : 975 : - : 7.95 : + 0.10 : 975 : 380 : 8.35 : + 0.20 : 590 : 10.00 : + 0.05	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 400.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0 LOW IDLE Rated speed rpm : 325 Rack travel in mm : 4.50 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 25.0 Tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.08.98 Test oil : ISO 4113

Combination No. : 0 402 848 300

Injection pump

Pump designation : PE8P120A520LS8518 EP type number : 0 412 828 201

Governor

Governer design. : RQV300...1150PA1323K

Governer no. : 0 421 815 963

Cust. part No. : 51.11103-7492

Customer-spec. information Customer : MAN

: D 2848 LE 403 : 588.0 Motor

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 130 Tolerance L/h : +- 15.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.65 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 13.00 Tolerance mm : +- 0.50

Firing order : 8-7A- 2- 6A- 3

: - 5A- 4

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.50

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.00 Tolerance mm : +- 0.05

1	guide sleeve
Del. quantity cm3/1000 strokes : 335.0	travel mm : 3.78 Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1500 guide sleeve
Check tolerance cm3/1000S. : + 4.0	travel mm : 13.50 Tolerance mm : +- 0.50
Spreed	GUIDE SLEEVE POSITION
Tolerance + cm3/1000 strokes : 8.0 +	Rated speed rpm : 1323
Check tolerance cm3/1000s. : 12.0	Rack travel in mm : 13.00 Tolerance mm : +- 2.70
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	Rated speed rpm : 1150 Aneroid pressure
Rack travel in mm : 5.50 Tolerance mm : +- 0.10	hPa : 2000 Del.quantity
Del. quantity cm3/1000 strokes : 49.0	cm3/1000 strokes : 335.0 Tolerance
Tolerance cm3/1000 strokes : + 3.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Check tolerance + cm3/1000s. : + 8.0 + Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 8.0	cm3/1000 strokes : 8.0 Check tolerance
Check tolerance + cm3/1000s. : 12.0	cm3/1000s. : 12.0
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
WITH GOVERNOR	control lever
GUIDE SLEEVE TRAVEL	position degree : 118.0 tolerance degree : +- 4.0
Rated speed rpm : 1206 + guide sleeve	RATED SPEED rack travel mm : 13.00
travel mm : 9.84 Tolerance mm : + 0.15	Rated speed rpm : 1195 Tolerance 1/min : +- 5
Rated speed rpm : 300	rack travel mm : 4.00
guide sleeve travel mm : 1.61	Rated speed rpm : 1335 Tolerance 1/min : +- 15
Tolerance mm : +- 0.20 +- Rated speed rpm : 797 +-	rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm : 797 guide sleeve + travel mm : 6.36 +	Rated speed rpm : 1475
Tolerance mm : + 0.25	
Rated speed rpm : 460	IOW TOLF

LOW IDLE

control layer	
control lever position degree tolerance degree	: 72.0 : ← 4.0
Setting point w/c	out bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 7.70
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.50 : ← 0.10
Rated speed rpm	: 332
TODOUE CONTROL	
TORQUE CONTROL Rated speed rpm	: 1150
rack travel mm	: 14.00
Tolerance mm	: +- 0.05
Rated speed rpm	: 1000
rack travel mm	
Tolerance mm	: ← 0.10
Rated speed rpm	: 850
rack travel mm Tolerance mm	: 12.00 : +- 0.10
Rated speed rpm rack travel mm	: 650 : 11.20
Tolerance mm	: 11.20 : + 0.10
Rated speed rpm	: 500
rack travel mm	: 6.30
Tolerance mm	: +- 0.10
Rated speed rpm	: 500
rack travel mm Tolerance mm	: 7.50 : ← 0.10
rocer drice min	
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 1150
Pressure hPa rack travel mm	: 2000 : 14.00
Tolerance mm	: +- 0.05
Rated speed rpm	: 1150
Pressure hPa	: -

rack travel mm Tolerance mm	: 7.80 : +- 0.15
MEASUREMENT	
Rated speed rpm	: 1150
Pressure hPa rack travel mm Tolerance mm	: 400 : 8.40 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 1100 : 12.20 : ← 0.15
Start interlock	
Rated speed rpm Rated speed rpm	: > 200 : < 250
Check speed 1/min Check speed 1/min	: > 190 : < 260
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 315.0
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1000 : 315.0 : ← 4.0

Tolerance

cm3/1000 strokes : +-

Check tolerance

cm3/1000s. 8.0 : +-

Delivery for shutoff assemblies (refer to cam sequence).

Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

Rated speed rpm 500

Delivery for shutoff assemblies (refer to cam sequence). Arbitrary delivery for standard plunger barrel assemblies.

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

: **←** 15.0 cm3/1000s.

Aneroid pressure

hPa 500 Rated speed rpm Del. quantity

cm3/1000 strokes : 175.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 4.0

Spreed Tolerance

cm3/1000 strokes :

10.0

Check tolerance

14.0 cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : **←** 0.50 Del. quantity

cm3/1000 strokes : 130.0

Tolerance cm3/1000 strokes : + 15.0

Check tolerance

: +- 19.0 cm3/1000s.

LOW IDLE

Delivery for standard plunger/barrel assemblies. Zero delivery for shutoff assemblies (refer to cam sequence).

Rated speed rpm : 300

Rack travel in mm : : **←** 0.10 Tolerance mm Del. quantity

cm3/1000 strokes : 49.0

Tolerance cm3/1000 strokes : +-3.0 Check tolerance

cm3/1000s. 8.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 28.08.98 Test oil : ISO 4113

Combination No. : 0 400 863 027

Injection pump

Pump designation : PES3A95D410/3RS2939

EP type number : 0 410 893 995

Governor

Governer design. : RSV325...1250A5C860L

Governer no. : 0 420 232 623

Cust. part No. : 0423 2521 KY

Customer-spec. information

Customer : KHD

Motor

: F3L913 COM1

: 44.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter :

x length mm : 600

2.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 17.50

Tolerance mm : + 1.50

Firing order : 1- 3- 2

rnasing Tolerance

: 0-120-240

: +- 0.50

Check

tolerance °NW

: **←** 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 9.80

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 57.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000S. : +- 3.0

Spreed

Tolerance cm3/1000 strokes : 3.4	Check tolerance : 8.0
Check tolerance - cm3/1000S. : 8.0 -	
	CONTROL LEVER
Rated speed rpm : 325	control lever position degree : 109.0 tolerance degree : +- 4.0
Rack travel in mm: 9.00	
Tolerance mm : + 0.10 -	RATED SPEED
Del. quantity - cm3/1000 strokes : 12.0 -	rack travel mm : 8.80 Rated speed rpm : 1295
Tolerance -	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	-
Check tolerance -	rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1345
Spreed -	Tolerance 1/min : +- 15
Tolerance - cm3/1000 strokes : 5.5	r - rack travel mm : 0.85
Check tolerance	- Tolerance mm : +- 0.55
cm3/1000s. : 9.0	- Rated speed rpm : 1530
-	-
(D) OFFICE OF THURSTIAN DUMP	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- Rated speed rpm : 1370 - Tolerance 1/min : +- 15
WITH GOVERNOR	
-	-
GUIDE SLEEVE POSITION	
00100 000000 1 001/10/1	LOUTNE
30102 022202 1 001/15/1	LOW IDLE
	LOW IDLE
control lever position degree : FREE	- LOW IDLE - - control lever
control lever	- - control lever - position degree : 76.0
control lever position degree : FREE Rated speed rpm : 800	- - control lever
control lever position degree : FREE	- - control lever - position degree : 76.0
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50	- - control lever - position degree : 76.0 - tolerance degree : +- 4.0
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10 Rated speed rpm : 100
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10 Rated speed rpm : 100
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : -	control lever position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing:
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity	control lever position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 57.0	control lever position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 9.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 57.0 Tolerance	control lever position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 57.0	control lever position degree : 76.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 9.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 57.0 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 540
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 57.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : +- 0.10 rack travel mm : 2.00
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 57.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 540
control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 5.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 57.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	control lever position degree : 76.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10 Rated speed rpm : 100 CRT mm min. : > 19.50 Testing: Rated speed rpm : 325 rack travel mm : 9.00 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 540

Rated speed rpm : 1250 rack travel mm : 9.80 Tolerance mm : +-0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.50 Tolerance mm : + 0.75 Del. quantity cm3/1000 strokes : 125.0

Tolerance cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 9.00
Tolerance mm : +- 0.10
Del. quantity
cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000S. : +- 4.5 Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.08.98 Test oil : ISO 4113

Combination No. : 0 400 864 115

Injection pump

Pump designation : PES4A75D410/3RS2945

EP type number : 0 410 874 993

Governor

Governer design. : RSV325...1250A5C954L

Governer no. : 0 420 232 644

Cust. part No. : 0423 2470 KY

Customer—spec. information Customer : KHD

Motor : F4L 913W Power KW : 44.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.90
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.00Tolerance mm : $\leftarrow 0.05$

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. :

: +- 2.0

Spreed

Tolerance cm3/1000 strokes	: 2.5	Check tolerance cm3/1000S. : 4.0
Check tolerance cm3/1000s.	: 4.0	
		CONTROL LEVER
Rated speed rpm	: 325	control lever position degrée : 101.0
	+	tolerance degree : +- 4.0
Rack travel in mm		
	: + 0.10 +	RATED SPEED
Del. quantity	. 10.0	rack travel mm : 10.00 Rated speed rpm : 1295
cm3/1000 strokes Tolerance	: 10.0	Tolerance 1/min : +- 5
cm3/1000 strokes	· +- 15	Totel ance Thintie
Check tolerance	1.3	rack travel mm : 4.00
	: ← 3.5	Rated speed rpm : 1335
Spreed	}	Tolerance 1/min : +- 15
Tolerance	+	
cm3/1000 strokes	: 4.0	rack travel mm : 0.85
Check tolerance	+	Tolerance mm : +- 0.55
cm3/1000s.	: 6.0	Rated speed rpm : 1505
	Ī	rack travel mm : 4.00
(B) SETTING OF INJ	ECTION PUMP	Rated speed rpm : 1355
WITH GOVERNOR	+	Tolerance 1/min : +- 15
W	+	
	+	
	+	
GUIDE SLEEVE POSIT	TON	LOU TALE
	Ī	LOW IDLE
control lever	I	
position degree	: - 3	control lever
	: 800	position degree : 67.0
	+	tolerance degree : +- 4.0
Rack travel in mm		
Tolerance mm	: ← 0.20	Setting point w/out bumper spring
governor spring	Į	Rated speed rpm : 325
pre-tension	+	rack travel mm : 7.50
click setting x	: 2.75	Tolerance mm : + 0.10
	†	Dated around now . 100
FULL LOAD DELIVERY	AT FULL LOAD STOP	Rated speed rpm : 100
TOLL COND DELIVERY	THE COLD STOR	CRT mm min. : > 19.50
Rated speed rpm	: 1250	
Aneroid pressure	+	Testing:
hPa	: - +	
Del. quantity	+	Rated speed rpm : 325_
cm3/1000 strokes	: 55.0	rack travel mm : 8.00
Tolerance		Talananaa mm
7/9(88)	+	Tolerance mm : +- 0.10
	: +- 0.5	
Check tolerance	+	rack travel mm : 2.00
Check tolerance cm3/1000s.	: +- 0.5 : +- 2.0	rack travel mm : 2.00 Rated speed rpm : 465
Check tolerance cm3/1000s. Spreed	+	rack travel mm : 2.00
Check tolerance cm3/1000s.	: +- 2.0	rack travel mm : 2.00 Rated speed rpm : 465

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 11.00 Tolerance mm : + 0.05

Rated speed rpm : 500

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : \leftarrow 7.5

Check tolerance

cm3/1000s. : \leftarrow 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 8.00 Tolerance mm : + 0.10 Del. quantity

vet. quantity

cm3/1000 strokes : 10.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.08.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 080

Injection pump

Pump designation : PES3A90D410RS2955 EP type number : F 002 A10 032

Governor

Governer design. : RSV300...1000A2B2281

Governer no. : 9 420 034 610

Cust. part No. :

Customer—spec. information : F3-315 Motor Power KW : 37.2

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 9 451 037 430

Inlet press. bar : 1.5

Test nozzle holde assembly : 0 681 343 009

Opening pressure

: 173.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05 3.60 Check tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-2-3-_

: 0-120-240 Phasing Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.50 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 73.5

Tolerance cm3/1000 strokes : \leftarrow 0.5

Check tolerance cm3/1000s. : +- 2.5

Spreed

Tolerance

cm3/1000 strokes : 2.5

+	
Check tolerance cm3/1000s. : 4.0	CONTROL LEVER
	control lever
+	position degree : 95.0
Rated speed rpm : 325	tolerance degree : +- 4.0
Rack travel in mm: 7.35	RATED SPEED
Tolerance mm : +- 0.10	rack travel mm : 9.50
Del. quantity	Rated speed rpm : 1155 Tolerance 1/min : +- 5
cm3/1000 strokes : 8.0 + Tolerance	Toterance Dain : +- 3
cm3/1000 strokes : +- 1.5 +	rack travel mm : 4.00
Check tolerance +	Rated speed rpm : 1175
cm3/1000s. : +- 3.0 +	Tolerance 1/min : +- 15
Spreed	
Tolerance + cm3/1000 strokes : 2.0 +	rack travel mm : 0.85 Tolerance mm : + 0.55
Check tolerance	Rated speed rpm : 1300
cm3/1000S. : 4.0	
+	rack travel mm : 4.00
+	Rated speed rpm : 1195
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : + 15
WITH GOVERNOR	
<u> </u>	
GUIDE SLEEVE POSITION	LOW IDLE
<u> </u>	
control lever	control lever
position degree : FREE	position degree : 61.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Setting point w/out bumper spring
Tolerance mm : + 0.20 +	Rated speed rpm : 325
governor spring	rack travel mm : 6.85
pre-tension +	Tolerance mm : + 0.10
click setting x : 2.50	
	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 17.00
Rated speed rpm : 1000	Testing:
Aneroid pressure	
hPa : - +	Rated speed rpm : 325
Del. quantity	rack travel mm : 7.35
cm3/1000 strokes : 73.5	Tolerance mm : +- 0.10
Tolerance + 0.5 + 0.5	rack travel mm : 2.00
Check tolerance	Rated speed rpm : 440
cm3/1000s. : +- 2.5	Tolerance 1/min : +- 30
Spreed	
Tolerance 3.5	TODALIE CONTROL
cm3/1000 strokes : 2.5 + Check tolerance +	TORQUE CONTROL Rated speed rpm : 1000
cm3/1000s. : 4.0	rack travel mm : 10.50
1,000	Tolerance mm : + 0.05

Tolerance mm	: +	- 0.05	
FUEL DELIVERY CHARACTERISTICS			
Aneroid pressure hPa	:	-	
Rated speed rpm Del. quantity	:	600	
cm3/1000 strokes	•	61.0	

hPa : Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 61.0
Tolerance
cm3/1000 strokes : +- 1.5
Check tolerance
cm3/1000s. : +- 3.0
Spreed
Tolerance
cm3/1000 strokes : 4.5
Check tolerance
cm3/1000 strokes : 6.0

Aneroid pressure hPa Tolerance mm : +- 0.05 Tolerance cm3/1000 strokes : +- 1.5 Check tolerance cm3/1000s. : **←** 3.5 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 5.5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : + 0.25 Tolerance cm3/1000 strokes : + 7.5 Check tolerance cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 7.35 Tolerance mm : + 0.10

Del. quantity
cm3/1000 strokes : 8.0
Tolerance
cm3/1000 strokes : + 1.5
Check tolerance
cm3/1000s. : + 3.0
Spreed
Tolerance
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.08.98 Test oil : ISO 4113

Combination No. : 0 402 046 875

Injection pump

Pump designation : PES6P110A320RS3329Z

EP type number : 0 412 016 744

Governor

Governer design. : RQV325...1250PA1251

Governer no. : 0 421 814 164

Cust. part No. : 1309376/4

Customer-spec. information Customer : DAF Motor : NS156M : 156.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity
min. L/h : 160
Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 har Tolerance bar : +- 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05 Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300 : +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : + 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85

Tolerance mm : +- 0.05

		∔ guide sleeve
Del. quantity		travel mm : 3.02
cm3/1000 strokes	. 1/4 0	+ Tolerance mm : + 0.25
CIID/1000 Strokes	. 144.0	Total arise min
Tolerance		Rated speed rpm : 1510
cm3/1000 strokes	: +- 1.0	guide sleeve
Chor 1000 Strokes	. 1.0	travel mm : 13.50
Check tolerance		Tolerance mm : +- 0.50
cm3/1000S.	: +- 4.0	T Total ance that 0.50
CIIDA 10003.	. +- 4.0	
Spreed		GUIDE SLEEVE POSITION
Spr eeu		T GOIDE SEELVE FOSITION
Tolerance		I
cm3/1000 strokes	: 8.0	- control lever
CIID/1000 STICKES	. 8.0	position degree : - 1
Check tolerance		Rated speed rpm : 1370
cm3/1000s.	: 12.0	T Rated speed (pii) . 1310
CIIS/ (DOUS.	. 12.0	Rack travel in mm: 10.85
		+ Tolerance mm : +- 1.30
		T roterance min . v= 1.50
Rated speed rpm	. 725	T
kated speed thiii	. 323	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Doel troval in me	1: 4.50	T FOLL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm		Rated speed rpm : 1000
Del. quantity	. +- 0.10	Aneroid pressure
cm3/1000 strokes	: 26.0	+ hPa : 1500
	: 20.0	· · ·
Tolerance cm3/1000 strokes	: +- 2.5	+ Del. quantity + cm3/1000 strokes : 144.0
	: +- 2.5	Tolerance
Check tolerance	: +- 5.0	+ cm3/1000 strokes : +- 1.0
cm3/1000s.	: + 5.0	Check tolerance
Spreed		•
Tolerance		
cm3/1000 strokes	: 4.0	+ Spreed
Check tolerance	. 8.0	+ Tolerance + cm3/1000 strokes : 8.0
cm3/1000s.	: 8.0	
		Check tolerance
(D) CETTING OF TH	LECTION DIME	- cm3/1000s. : 12.0
(B) SETTING OF IN	JECTION PUMP	†
WITH GOVERNOR		T
		CONTROL LEVED
CUINE CLEENE TOAN	<u></u>	CONTROL LEVER
GUIDE SLEEVE TRAV	EL	T control loven
Dated apped	. 1208	+ control lever
Rated speed rpm	. 1270	<pre>+ position degree : 123.0 + tolerance degree : +- 4.0</pre>
guide sleeve	. 40.25	toterance degree : += 4.0
travel mm	: 10.25	DATEN COECN
Tolerance mm	: +- 0.15	RATED SPEED
0.4	. 725	rack travel mm : 10.85
Rated speed rpm	: 325	Rated speed rpm : 1300 Tolerance 1/min : +- 5
guide sleeve	: 1.25	
travel mm		+ Check
Tolerance mm	: +- 0.20	+ speed 1/min : +- 10
Data d	. 9/7	mark thought are 1,000
Rated speed rpm	: 863	rack travel mm : 4.00
guide sleeve	. 5/4	+ Rated speed rpm : 1375
travel mm	: 5.41	Tolerance 1/min : +- 15
Tolerance mm	: +- 0.25	+ Check
Data dam d		+ speed 1/min : +- 20
Rated speed rpm	: 520	7
		+ rack travel mm : 0.50

Tolerance mm Rated speed rpm	: ← 0.50 : 1500
LOW IDLE	
control lever position degree tolerance degree	: 76.0 : ← 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 225
CRT mm min.	: > 6.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 4.50 : ← 0.10
Rated speed rpm	: 375
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1000 : 11.85 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 11.85 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1250 : 11.85 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 1500 : 11.85 : ← 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : - : 7.35 : + 0.20
MEASUREMENT	

Rated speed rpm	: 600
Pressure hPa rack travel mm Tolerance mm	: 370 : 10.75 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 200 : 8.40 : + 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	
Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: +- 3.0 : +- 6.0
rack travel mm Tolerance mm	: 11.85 : + 0.10
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 94.0
LOW IDLE	
Rated speed rpm	: 325
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed	: 4.50 : + 0.10 : 26.0 : + 2.5 : + 5.0

Check 1 cm3/100	tolera 00S.	ance	:	8.0		
End of	test	speci	ficati	ion she		·

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.09.98 Test oil : ISO 4113

Combination No. : 0 402 046 882

Injection pump

Pump designation : PES6P110A320RS3329 EP type number : 0 412 016 743

Governor

Governer design. : RQV325...1250PA1385

Governer no. : 0 421 814 209

Cust. part No. : 1351707/1

Customer-spec. information

Customer : DAF

: NS177M-CBP Motor : 177.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. L/h : 140 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 12.80 Tolerance mm : $\leftarrow 0.50$

Firing order : 1-5-3-6-2

: 0- 60- 120- 180 Phasing

: - 240- 300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.70

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance "NW : +- 0.70

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

	1
Rack travel in mm : 12.80 Tolerance mm : + 0.05	Rated speed rpm : 520
Toterance initial : + 0.05	
	+ travel mm : 3.02
Del. quantity	Tolerance mm : + 0.25
cm3/1000 strokes : 154.5	+
	+ Rated speed rpm : 1510
Tolerance	+ guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 13.50
tilis/ tout strokes : += 1.0	•
	+ Tolerance mm : + 0.50
Check tolerance	+
cm3/1000s. : +- 4.0	+
	→ GUIDE SLEEVE POSITION
Spreed	1
spreed	T
	†
Tolerance	+ control lever
cm3/1000 strokes : 5.0	→ position degree : -1
	+ Rated speed rpm : 1360
Check tolerance	1
	Rack travel in mm: 11.80
cm3/1000s. : 9.0	
	+ Tolerance mm : ← 1.30
	+
	+
Rated speed rpm : 325	FULL LOAD DELIVERY AT FULL LOAD STOP
nated speed ipin . Ses	1
D 1 4 1 to / /O	T 2000
Rack travel in mm: 4.40	+ Rated speed rpm : 1000
Tolerance mm : + 0.10	+ Aneroid pressure
Del. quantity	+ hPa : 1500
cm3/1000 strokes : 26.0	- Del. quantity
Tolerance	+ cm3/1000 strokes : 154.5
cm3/1000 strokes : + 2.5	+ Tolerance
Check tolerance	+ cm3/1000 strokes : + 1.0
$cm3/1000s$. : \leftarrow 6.0	+ Check tolerance
Spreed	+ cm3/1000s. : +- 4.0
Tolerance	Spreed
	+ Tolerance
Check tolerance	+ cm3/1000 strokes : 5.0
cm3/1000s. : 12.0	+ Check tolerance
	+ cm3/1000s. : 9.0
	1
(B) SETTING OF INJECTION PUMP	1
	T
WITH GOVERNOR	ACCUSED A FILED
•	+ CONTROL LEVER
	+
GUIDE SLEEVE TRAVEL	+ control lever
	position degree : 123.0
Rated speed rpm : 1303	tolerance degree : + 4.0
	T totalite degree . 1 4.0
guide sleeve	T
travel mm : 10.33	+ RATED SPEED
Tolerance mm : +- 0.15	+ rack travel mm : 11.80
	+ Rated speed rpm : 1290
Rated speed rpm : 325	+ Tolerance 1/min : +- 5
· · · · · · · · · · · · · · · · · · ·	+ Check
guide sleeve	· ·
travel mm : 1.25	+ speed 1/min : +- 10
Tolerance mm : + 0.20	+
	+ rack travel mm : 4.00
Rated speed rpm : 865	+ Rated speed rpm : 1375
	+ Tolerance 1/min : +- 15
guide sleeve	
travel mm : 5.43	+ Check
Tolerance mm : +- 0.25	+ speed 1/min : +- 20

Rated speed rpm : 1500

LOW IDLE

control lever position degree : 77.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : + 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 12.80 Tolerance mm : +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

600 Rated speed rpm : Pressure hPa : 1500
rack travel mm : 12.80
Tolerance mm : + 0.05

Rated speed rpm : 600 Pressure hPa : rack travel mm : 7.10 : **←** 0.20 Tolerance mm

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 210 rack travel mm : 8.60 Tolerance mm : + 0.10

Pressure hPa : 410 rack travel mm : 11.40 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm : 1000 Del. quantity

cm3/1000 strokes : 93.0

Tolerance cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

Tolerance cm3/1000 strokes : 8.0 Check tolerance

: 12.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.40 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 26.0 Tolerance

cm3/1000 strokes : \leftarrow 2.5 Check tolerance

: +- 6.0 cm3/1000s. Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

: 12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02.09.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 046 884

Injection pump

Pump designation : PES6P110A320RS3329 EP type number : 0 412 016 743

Governor

Governer design. : RQ325...1250PA1396

Governer no. : 0 421 801 838

Cust. part No. : 1351855/0

Customer-spec. information Customer : DAF

: NS177M (CBP) Motor

Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity
min. L/h : 140
Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 2.0

x inside diameter : 6.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50

Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

	1
Rack travel in mm : 12.80 Tolerance mm : +- 0.05	Rated speed rpm : 426 guide sleeve
Del. quantity cm3/1000 strokes : 154.5	+ travel mm : 3.48 + Tolerance mm : + 0.10
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 590 guide sleeve travel mm : 6.00
Check tolerance	Tolerance mm : +- 0.10
cm3/1000s. : +- 4.0	Rated speed rpm : 1460 guide sleeve
Spreed	+ travel mm : 11.50 + Tolerance mm : +- 0.50
Tolerance cm3/1000 strokes : 8.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000S. : 12.0	T GOIDE SELEVE FOSITION
	control lever position degree : 109 Rated speed rpm : 600
Rated speed rpm : 325	Rack travel in mm : 20.00
Rack travel in mm : 4.40 Tolerance mm : +- 0.10	Tolerance mm : +- 0.80
Del. quantity cm3/1000 strokes : 26.0 Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : +- 3.0 Check tolerance	Rated speed rpm : 1000 Aneroid pressure
cm3/1000s. : +- 6.0 Spreed	+ hPa : 1500 + Del. quantity
Tolerance cm3/1000 strokes : 4.0	+ cm3/1000 strokes : 154.5 + Tolerance + cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. : 8.0	+ Check tolerance + cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Spreed + Tolerance + cm3/1000 strokes : 8.0
WITH GOVERNOR	Check tolerance cm3/1000s. : 12.0
GUIDE SLEEVE TRAVEL	‡
Rated speed rpm : 1292 guide sleeve	CONTROL LEVER
travel mm : 6.36 Tolerance mm : +- 0.15	control lever position degree : 94.0
Rated speed rpm : 325 guide sleeve	tolerance degree : + 4.0
travel mm : 1.99 Tolerance mm : +- 0.20	RATED SPEED rack travel mm : 11.80 Rated speed rpm : 1290
Rated speed rpm : 1250 guide sleeve	+ rack travel mm : 4.00
travel mm : 6.00 Tolerance mm : +- 0.10	Rated speed rpm : 1370 Tolerance 1/min : + 15

Check speed 1/min : +- 20

rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1500

LOW IDLE

control lever

position degree : 71.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 5.77

Testing:

Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : +-0.10

rack travel mm : 2.00
Rated speed rpm : 414
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 12.80 Tolerance mm : + 0.05

Rated speed rpm : 1250 rack travel mm : 12.80 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 12.80
Tolerance mm : + 0.05

Rated speed rpm : 600
Pressure hPa : rack travel mm : 7.10
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 310 rack travel mm : 11.40 Tolerance mm : +- 0.05

Pressure hPa : 110 rack travel mm : 8.60 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 93.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.40
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 26.0
Tolerance
cm3/1000 strokes : + 3.0

Check tolerance cm3/1000s. : +- 6.0

Spreed Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27.08.98 Edition Test oil : ISO 4113

Combination No. : 0 402 076 826

Injection pump

Pump designation : PES6P120A720RS3340 EP type number : 0 412 026 773

Governor

Governer design. : RSV650...1050P8A566

: -7

Governer no. : 0 421 833 626

Cust. part No. : 87801590

Customer—spec. information Customer : NH

: EP 040 B Motor Power KW : 202.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 3.60 Prestroke mm Tolerance mm : **←** 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Check

tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 12.35

K01

Tolerance mm : +- 0.05	+ Del. quantity
	+ cm3/1000 strokes : 183.0
Del. quantity	+ Tolerance
cm3/1000 strokes : 183.0	+ cm3/1000 strokes : + 1.0
	+ Check tolerance
Tolerance	+ cm3/1000s. : $+$ 6.0
cm3/1000 strokes : +- 1.0	+ Spreed
	+ Tolerance
Check tolerance	+ cm3/1000 strokes : 5.0
$cm3/1000S$. : \leftarrow 6.0	+ Check tolerance
	+ cm3/1000s. : 9.0
Spreed	+
	+
Tolerance	
cm3/1000 strokes : 5.0	+ CONTROL LEVER
Olivel A lawses	†
Check tolerance	+ control lever
cm3/1000s. : 9.0	position degree : 91.0
	Ť
	ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 650	I ASSEMBLI GOVERNOR SETTING
Rated speed (pill : 000	Rated speed rpm : 1067
Rack travel in mm : 4.60	+ rack travel mm : 11.30
Tolerance mm : +- 0.10	Tuck cruves min
Del. quantity	Rated speed rpm : 1097
cm3/1000 strokes : 23.0	+ Tolerance 1/min : + 5
Tolerance	+ rack travel mm : 4.00
cm3/1000 strokes : +- 3.0	1 468 (1446 (188)
Check tolerance	rack travel mm : 0.85
cm3/1000s. : +- 6.0	+ Tolerance mm : +- 0.55
Spreed	+ Rated speed rpm : 1300
Tolerance	+
cm3/1000 strokes : 8.0	1
Check tolerance	Rated speed rpm : 1068
cm3/1000s. : 12.0	Rated speed rpm : 1068 rack travel mm : 11.30
	1
	Rated speed rpm : 1098
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : +- 5
WITH GOVERNOR	+ rack travel mm : 4.00
	+
	+ rack travel mm : 0.85
	Tolerance mm : +- 0.55
GUIDE SLEEVE POSITION	+ Rated speed rpm : 1300
	+
	+
control lever	Rated speed rpm : 1069
position degree : - 3	+ rack travel mm : 11.30
	+
governor spring	+ Rated speed rpm : 1099
pre-tension	+ Tolerance 1/min : +- 5
click setting x : 2.50	† rack travel mm : 4.00
	†
FULL LOAD DELTUEDU AT EUL LOAD OTOE	rack travel mm : 0.85
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.55
Dated aread many 4005	Rated speed rpm : 1300
Rated speed rpm : 1025	†
Aneroid pressure	Dated around Town : 1070
hPa : 1600	Rated speed rpm : 1070
	+ rack travel mm : 11.30

		+ Tolerance mm : +- 0.10
Rated speed rpm Tolerance 1/min rack travel mm	: ← 5 : 4.00	Rated speed rpm : 650 rack travel mm : 13.10 Tolerance mm : +- 0.15
rack travel mm Tolerance mm	: +- 0.55	İ
Rated speed rpm	: 1300	ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm rack travel mm		SETTING
Rated speed rpm Tolerance 1/min	: 1101	Rated speed rpm : 500 Pressure hPa : 1600
rack travel mm		+ Pressure hPa : 1600 + rack travel mm : 13.10
		Tolerance mm : +- 0.15
rack travel mm Tolerance mm	: 0.85 : +- 0.55	+ Rated speed rpm : 500
Tolerance mm Rated speed rpm	: 1300	+ Pressure hPa : -
		rack travel mm : 7.80 Tolerance mm : + 0.15
Rated speed rpm	: 1072	+ voter arice man
rack travel mm	: 11.30	+ MEASUREMENT
Rated speed rpm Tolerance 1/min	: 1102 : +- 5	Rated speed rpm : 500
rack travel mm	: 4.00	+ Pressure hPa : 980
rack travel mm	: 0.85	+ rack travel mm : 11.60 + Tolerance mm : +- 0.10
Tolerance mm	: +- 0.55	+
Rated speed rpm	: 1300	Start interlock
		
LOW IDLE		+ Rated speed rpm : > 100
		Check
control lever position degree	· 7/ n	speed 1/min : > 80
		Ţ
	out bumper spring	+ FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm	: 4.10	Aneroid pressure
Tolerance mm	: +- 0.10	+ hPa : 1600
Testing:		Rated speed rpm : 750 Del. quantity
•		+ cm3/1000 strokes : 210.0
Rated speed rpm	: 650	+ Tolerance + cm3/1000 strokes : +- 3.0
rack travel mm Tolerance mm	· + 0.10	+ Check tolerance
		- cm3/1000s. : + 6.0
TORQUE CONTROL		_
Rated speed rpm	: 1025	rack travel mm : 13.10
rack travel mm To erance mm	: 12.35 : +- 0.05	Tolerance mm : +- 0.15
		+
Rated speed rpm rack travel mm	: 750 : 13.05	+ Aneroid pressure + hPa : -

Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 86.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Tolerance mm : + 0.50
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 650 Rack travel in mm: 4.60 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : + 3.0Check tolerance : +- 6.0 cm3/1000s. Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 27.08.98 Test oil : ISO 4113

Combination No. : 0 402 646 679

Injection pump

Pump designation : PE6P120A320RS7447Z

EP type number : 0 412 626 969

Governor

Governer design. : RQ275/1150PA1361

Governer no. : 0 421 801 825

Cust. part No. : 1329610

Customer-spec. information

Customer : DAF

: GS 160

Motor Power KW

: 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Overflow quantity

min. L/h

: 145

Tolerance l/h: \leftarrow 20.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar : + 1.5

K05

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.60

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : + 0.70

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.60

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes	: 154.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 275
Rack travel in mm Tolerance mm Del. quantity	: 5.05 : +- 0.10
cm3/1000 strokes Tolerance	: 24.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s.	: +- 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
(B) SETTING OF INJ	
GUIDE SLEEVE TRAVE	
Rated speed rpm guide sleeve	
travel mm Tolerance mm	: 6.51 : +- 0.15
Rated speed rpm guide sleeve	: 275
travel mm Tolerance mm	: 2.08 : +- 0.20
Rated speed rpm guide sleeve	: 1150
travel mm Tolerance mm	: 6.00 : + 0.10
Rated speed rpm	: 355

guide sleeve travel mm Tolerance mm	: 4.57 : +- 0.10
Rated speed rpm guide sleeve	: 440
travel mm Tolerance mm	: 6.00 : + 0.10
Rated speed rpm guide sleeve	: 1360
travel mm Tolerance mm	: 11.50 : + 0.50
GUIDE SLEEVE POSI	TION
control lever	
position degree Rated speed rpm	: - 1 : 600
Rack travel in mm Tolerance mm	: 16.00 : +- 0.40
FULL LOAD DELIVER	Y AT FULL LOAD STOP
FULL LOAD DELIVER Rated speed rpm Aneroid pressure	Y AT FULL LOAD STOP : 1000
Rated speed rpm Aneroid pressure hPa	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 1000 : 1000
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1000 : 1000
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 1000 : 154.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 1000 : 1000 : 154.0 : +- 1.0 : +- 4.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1000 : 1000 : 154.0 : +- 1.0 : +- 4.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 1000 : 1000 : 154.0 : ← 1.0 : ← 4.0 : 5.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 1000 : 1000 : 154.0 : ← 1.0 : ← 4.0 : 5.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: 1000 : 1000 : 154.0 : +- 1.0 : +- 4.0 : 5.0 : 9.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: 1000 : 1000 : 154.0 : +- 1.0 : +- 4.0 : 5.0 : 9.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: 1000 : 1000 : 154.0 : +- 1.0 : +- 4.0 : 5.0 : 9.0

control lever position degree tolerance degree	: 97.0 : +- 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 9.60 : 1202 : +- 8
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1275 : + 15

Rated speed rpm : 1450

LOW IDLE

control lever

position degree : 74.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. : > 6.50

Testing:

Rated speed rpm : 275
rack travel mm : 5.05
Tolerance mm : + 0.10

rack travel mm : 2.00 Rated speed rpm : 350 Tolerance 1/min : +- 20

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 10.60 Tolerance mm : \leftarrow 0.05

Rated speed rpm : 1150 rack travel mm : 10.60 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600 Pressure hPa : 1000 rack travel mm : 10.60 Tolerance mm : + 0.05

Rated speed rpm : 600 Pressure hPa : - rack travel mm : 6.75 Tolerance mm : \leftarrow 0.10

MEASUREMENT

Rated speed rpm : 600

K07

Pressure hPa : 175 rack travel mm : 9.60 Tolerance mm : + 0.05

Pressure hPa : 80 rack travel mm : 7.50 Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 101.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm: 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 24.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 27.08.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 646 682

Injection pump

Pump designation : PE6P120A320RS7438 EP type number : 0 412 626 965

Governor

Governer design. : RQV275...1150PA1386K

Governer no. : 0 421 815 563

Cust. part No. : 1349449

Customer-spec. information

Customer : DAF

: PF 235 M (flach) Motor

Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 : **←** 2.0 Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150
Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 15.0 Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : +- 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50 Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 13.50

Tolerance mm : \leftarrow 0.05

	∔ guide sleeve
Del. quantity	travel mm : 3.40
cm3/1000 strokes : 259.0	Tolerance mm : + 0.25
Tolerance	Rated speed rpm : 1427
cm3/1000 strokes : + 1.0	+ guide sleeve
	† travel mm : 12.00
Check tolerance	+ Tolerance mm : +- 0.25
$cm3/1000s.$: \leftarrow 4.0	†
	+ Rated speed rpm : 1520
Spreed	guide sleeve
Tolerance	+ travel mm : 13.50 + Tolerance mm : +- 0.50
cm3/1000 strokes : 5.0	T roter differ limit . 1 0.50
Chis/ 1000 311 0kes	
Check tolerance	GUIDE SLEEVE POSITION
cm3/1000s. : 9.0	+
	+ Rated speed rpm : 1401
	+
	+ Rack travel in mm : 12.20
Rated speed rpm : 275	+ Tolerance mm : + 1.30
Rack travel in mm : 5.00	<u> </u>
Tolerance mm : + 0.10	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity	I TOLL LOAD DELIVERY AT TOLL LOAD STOP
cm3/1000 strokes : 16.0	Rated speed rpm : 850
Tolerance	+ Aneroid pressure
cm3/1000 strokes : +- 3.0	+ hPa : 1500
Check tolerance	+ Del. quantity
cm3/1000s. : +- 6.0	+ cm3/1000 strokes : 259.0
Spreed	+ Tolerance
Tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000 strokes : 8.0	+ Check tolerance
Check tolerance cm3/1000s. : 12.0	+ cm3/1000S. : + 4.0 + Spreed
Cm5/10005. : (2.0	+ Tolerance
	+ cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance
WITH GOVERNOR	+ cm3/1000s. : 9.0
	+
	+
GUIDE SLEEVE TRAVEL	+
247/	+ CONTROL LEVER
Rated speed rpm : 1174	t control lever
guide sleeve travel mm : 7.43	+ position degree : 110.0
Tolerance mm : +- 0.15	tolerance degree : +- 4.0
Total differential	Local dive degree : 4.0
Rated speed rpm : 275	RATED SPEED
guide sleeve	+ rack travel mm : 12.20
travel mm : 1.71	+ Rated speed rpm : 1185
Tolerance mm : + 0.20	+ Tolerance 1/min : +- 5
2/2	+ Check
Rated speed rpm : 940	+ speed 1/min : +- 10
guide sleeve	rack travel mm : 4.00
travel mm : 5.44 Tolerance mm : + 0.25	+ rack travel mm : 4.00 + Rated speed rpm : 1295
10 (E) GITCE (MI) . T- 0.27	+ Tolerance 1/min : +- 15
Rated speed rpm : 520	- Check
	+ speed 1/min : +- 20

Tolerance mm Rated speed rpm	: +- 0.70 : 1450
LOW IDLE	
control lever position degree tolerance degree	: 73.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 175
CRT mm min.	: > 7.60
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.00 : +- 0.10
Rated speed rpm	: 395
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 850 : 13.50 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1130 : 13.20 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 800 : 13.45 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 650 : 12.70 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.10 : + 0.10

SETTING

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: : :	875 1500 13.50 +- 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: : :	875 - 9.00 ← 0.10
MEASUREMENT		
Rated speed rpm	:	875
Pressure hPa rack travel mm Tolerance mm	:	650 12.70 +- 0.05

Pressure hPa : 350 rack travel mm : 10.60 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa Rated speed rpm	: 1500 : 1130
Del. quantity cm3/1000 strokes Tolerance	: 232.0
cm3/1000 strokes Check tolerance	: ← 2.0
cm3/1000S. Spreed Tolerance	: ← 5.0
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
rack travel mm Tolerance mm	: 13.25 : +- 0.10
Aneroid pressure hPa Rated speed rpm Del. quantity	: +- 0.10 : - : 600
Aneroid pressure hPa Rated speed rpm	: +- 0.10 : -

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s: 12.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : 5.00 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 16.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : + 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 31.07.98 : ISO 4113

Combination No. : 0 402 646 778

Injection pump

Pump designation : PE6P120A320LS7872 EP type number : 0 412 626 912

Governor

Governer design. : RQV300...950PA1162

Governer no. : 0 421 814 101

Cust. part No. : B0165-6-3

Customer-spec. information Customer : KHD

: BF6M10150 Motor

Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : ← 0.05 Check tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-6-3-5-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

950 Rated speed rpm :

Rack travel in mm : 14.20 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 350.0

K12

Tolerance +	guide sleeve
cm3/1000 strokes : + 1.0 +	travel mm : 2.55
1	Tolerance mm : + 0.25
Check tolerance	
cm3/1000s. : + 4.0	Rated speed rpm : 470
11137 12023.	guide sleeve
Canad	travel mm : 3.45
Spreed	Tolerance mm : + 0.25
<u> </u>	roterance in : + 0.25
Tolerance	0-4-4
cm3/1000 strokes : 6.0 +	Rated speed rpm : 1250
<u> </u>	guide sleeve
Check tolerance +	travel mm : 13.50
cm3/1000s. : 9.0 +	Tolerance mm : +- 0.50
+	
+	GUIDE SLEEVE POSITION
Rated speed rpm : 300	
+	Rated speed rpm : 1075
Rack travel in mm: 5.00	and the second s
Tolerance mm : + 0.10	Rack travel in mm : 16.50
Del. quantity	Tolerance mm : + 1.30
cm3/1000 strokes : 23.0	TO COLIGINO TIME TO TAKE
Tolerance	CHILL LOAD DELTUENY AT ELLE LOAD STOP
cm3/1000 strokes : + 3.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	
cm3/1000s. : +- 6.0 +	Rated speed rpm : 950
Spreed +	Aneroid pressure
Tolerance +	hPa : 1700
cm3/1000 strokes : 8.0 +	Del. quantity
Check tolerance +	cm3/1000 strokes : 350.0
cm3/1000s. : 12.0 +	Tolerance
	am7/1000 atacks 1 0
+	CIRS/ IUUU STROKES : +- 1.0
1	cm3/1000 strokes : +- 1.0 Check tolerance
(B) SETTING OF INJECTION PLIMP	Check tolerance
(B) SETTING OF INJECTION PUMP	Check tolerance cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Check tolerance cm3/1000s. : +- 4.0 Spreed
.	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
WITH GOVERNOR +	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
.	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
GUIDE SLEEVE TRAVEL	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 1009	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : +0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718 guide sleeve	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20 Rated speed rpm : 995
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : +- 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : +- 0.25 Rated speed rpm : 718 guide sleeve travel mm : 5.97	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718 guide sleeve	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20 Rated speed rpm : 995 Tolerance 1/min : + 5
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718 guide sleeve travel mm : 5.97 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20 Rated speed rpm : 995 Tolerance 1/min : + 5 rack travel mm : 4.00
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718 guide sleeve travel mm : 5.97 Tolerance mm : + 0.25 Rated speed rpm : 5.97 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20 Rated speed rpm : 995 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1100
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718 guide sleeve travel mm : 5.97 Tolerance mm : + 0.25 Rated speed rpm : 5.97 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20 Rated speed rpm : 995 Tolerance 1/min : + 5 rack travel mm : 4.00
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718 guide sleeve travel mm : 5.97 Tolerance mm : + 0.25 Rated speed rpm : 5.97 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20 Rated speed rpm : 995 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1100 Tolerance 1/min : + 15
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718 guide sleeve travel mm : 5.97 Tolerance mm : + 0.25 Rated speed rpm : 5.97 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20 Rated speed rpm : 995 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1100 Tolerance 1/min : + 15 rack travel mm : 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718 guide sleeve travel mm : 5.97 Tolerance mm : + 0.25 Rated speed rpm : 5.97 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20 Rated speed rpm : 995 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1100 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1009 guide sleeve travel mm : 9.48 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.36 Tolerance mm : + 0.25 Rated speed rpm : 718 guide sleeve travel mm : 5.97 Tolerance mm : + 0.25 Rated speed rpm : 5.97 Tolerance mm : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.20 Rated speed rpm : 995 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1100 Tolerance 1/min : + 15 rack travel mm : 0.50

LOW IDLE

control lever

position degree : 76.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. :> 8.00

Testing:

Rated speed rpm : 300 rack travel mm : 5.00 Tolerance mm : +- 0.10

Rated speed rpm : 345

TORQUE CONTROL

Rated speed rpm : 950 rack travel mm : 14.20 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1700
rack travel mm : 14.20
Tolerance mm : +- 0.05

Rated speed rpm : 400
Pressure hPa : rack travel mm : 9.00
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 400

Pressure hPa : 385 rack travel mm : 9.80 Tolerance mm : +- 0.10

Pressure hPa : 1000 rack travel mm : 13.00 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 400 Del. quantity

cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : +- 1.0 Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 9.00 Tolerance mm : + 0.30 bel. quantity cm3/1000 strokes : 135.0 Tolerance

cm3/1000 strokes : +- 20.0 Check tolerance

cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 5.00
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 23.0
Tolerance

cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 08.09.98 : ISO 4113

Combination No. : F 002 A0Z 080

Injection pump

Pump designation : PES3A90D410RS2955

EP type number : F 002 A10 032

Governor

Governer design. : RSV300...1000A2B2281

Governer no.

: 9 420 034 610

Cust. part No. :

Customer-spec. information : **F3-315** Motor : 37.2

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 9 451 037 430

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 543 009

Opening pressure

bar

: 173.5

Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.60 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-2-3-Firing order

: 0-120-240 Phasing Tolerance : **←** 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 73.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance cm3/1000s.

: +- 2.5

Spreed

Tolerance

cm3/1000 strokes : 2.5

)
Check tolerance cm3/1000s. : 4.0	CONTROL LEVER
	T control lever
	position degree : 90.0
Rated speed rpm : 325	tolerance degree : +- 4.0
Rack travel in mm : 7.35	+ RATED SPEED
Tolerance mm : +- 0.10	rack travel mm : 9.50
Del. quantity	Rated speed rpm : 1140
cm3/1000 strokes : 8.0 Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : +- 1.5	Track travel mm : 4.00
Check tolerance	Rated speed rpm : 1180
cm3/1000s. : +- 3.0	Tolerance 1/min : +- 15
Spreed -	+
Tolerance	+ rack travel mm : 0.85
cm3/1000 strokes : 2.0	Tolerance mm : + 0.55
Check tolerance - cm3/1000s. : 4.0 -	Rated speed rpm : 1300
cm3/1000s. : 4.0	+ rack travel mm : 4.00
	Rated speed rpm : 1200
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 15
WITH GOVERNOR -	+
-	+
•	†
GUIDE SLEEVE POSITION	LOW IDLE
GOIDE SEEENE LOSTITOM	T LOW IDEC
	
control lever	control lever
position degree : FREE -	position degree : 64.0
Rated speed rpm : 800	tolerance degree : + 4.0
Rack travel in mm : 0.50	T Setting point w/out bumper spring
Tolerance mm : +- 0.20	T setting point wout bumper spring
- October 1887 October 1887	
	Rated speed rpm : 325
governor spring -	Rated speed rpm : 325 rack travel mm : 6.85
governor spring - pre-tension -	
	rack travel min : 6.85 Tolerance mm : + 0.10
pre-tension -	rack travel min : 6.85
pre-tension -	rack travel min : 6.85 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel min : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure	rack travel min : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : -	rack travel min : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure	rack travel min : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing:
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.5 Tolerance	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325 rack travel mm : 7.35 Tolerance mm : + 0.10
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 strokes : ÷ 0.5	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325 rack travel mm : 7.35 Tolerance mm : + 0.10 rack travel mm : 2.00
pre-tension click setting x : 2.50	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325 rack travel mm : 7.35 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 strokes : ÷ 0.5 Check tolerance cm3/1000s. : + 2.5	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325 rack travel mm : 7.35 Tolerance mm : + 0.10 rack travel mm : 2.00
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 strokes : ÷ 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325 rack travel mm : 7.35 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 strokes : ÷ 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed Tolerance	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325 rack travel mm : 7.35 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 strokes : ÷ 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed Tolerance cm3/1000 strokes : 2.5	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325 rack travel mm : 7.35 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 strokes : ÷ 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed Tolerance	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325 rack travel mm : 7.35 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 10.50
pre-tension click setting x : 2.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 73.5 Tolerance cm3/1000 strokes : i- 0.5 Check tolerance cm3/1000s. : + 2.5 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance	rack travel mm : 6.85 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 17.00 Testing: Rated speed rpm : 325 rack travel mm : 7.35 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1000

Tolerance mm FUEL DELIVERY CHA	: ← 0.05 RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: + 1.5 : + 3.0
Aneroid pressure hPa Tolerance mm Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 6.0 : - : + 0.05 : + 1.5 : + 3.5 : 3.0
Check tolerance cm3/1000S. STARTING FUEL DEL. Rated speed rpm rack travel mm Tolerance mm Tolerance cm3/1000 strokes	: 5.5 IVERY : 100 : 21.00 : + 0.25
Check tolerance cm3/1000s.	: +- 10.0

Del. quantity		
cm3/1000 strokes	:	8.0
Tolerance		
cm3/1000 strokes	: +-	1.5
Check tolerance		
cm3/1000s.	: +-	3.0
Spreed		
Tolerance		
cm3/1000 strokes	:	2.0
Check tolerance		
cm3/1000s.	:	4.0
		–

End of test specification sheet

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 7.35Tolerance mm : \leftarrow 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13.03.98
Test oil

Combination No. : 9 400 030 732

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1250A0C845R

Governer no. : 9 420 034 711

Cust. part No. : 3929407

Customer-spec. information Customer : CDC

Motor : 6BT

Power KW : 97.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. "C Tolerance "C temp. °C : **←** 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

Start of delivery blocking

°NW after s.o.d. : 7.00 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.80 Tolerance mm : \leftarrow 0.05

K18

	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 88.5	+ hPa : - Del. quantity
Tolerance	cm3/1000 strokes : 88.5 Tolerance
cm3/1000 strokes : +- 1.0	- cm3/1000 strokes : + 1.0 - Check tolerance
Check tolerance cm3/1000s. : +- 3.0	cm3/1000S. : + 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 3.5 Check tolerance
Tolerance cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL LEVER
Rated speed rpm : 475	control lever position degree : 117.0 tolerance degree : + 4.0
Rack travel in mm: 5.10 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 18.5	RATED SPEED rack travel mm : 9.80 Rated speed rpm : 1315 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed	rack travel mm : 5.50 Rated speed rpm : 1375 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5	+ rack travel mm : 0.85 + Tolerance mm : + 0.55 + Rated speed rpm : 1500 + rack travel mm : 5.50
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Rated speed rpm : 1375 + Tolerance 1/min : + 15 -
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 91.0 tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	Control lever difference Grad: 26.0 tolerance degree: +- 4.0
governor spring pre-tension click setting x : 5.00	Setting point w/out bumper spring
	Rated speed rpm : 475 rack travel mm : 4.60
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Tolerance mm : + 0.10
Rated speed rpm : 1250	Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 475
rack travel mm : 5.10
Tolerance mm : +- 0.10

TORQUE CONTROL
Rated speed rom

Rated speed rpm : 1250 rack travel mm : 10.80 Tolerance mm : + 0.05

Rated speed rpm : 800 rack travel mm : 11.20 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800 Pressure hPa : -

MEASUREMENT

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 94.5

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000S. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 120.5

Tolerance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm : 5.10
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 18.5
Tolerance
cm3/1000 strokes : + 2.0

Check tolerance

: +- 4.5

3.5

cm3/1000S.

Spreed Tolerance

cm3/1000 strokes :

Check tolerance cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 08.09.98 : ISO 4113

Combination No. : 0 402 046 855

Injection pump

Pump designation : PES6P110A320RS3329 EP type number : 0 412 016 743

Governor

Governer design. : RQV325...1300PA1119

Governer no. : 0 421 814 083

Cust. part No. : 1284418/4

Customer-spec. information Customer : DAF

: NS156M Motor Power KW : 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

1.5 Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : ← 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes	: 144.0	+ Tolerance mm : + 0.25 +
Tolerance		+ Rated speed rpm : 455 + guide sleeve
cm3/1000 strokes	: + 1.0	+ travel mm : 2.52 + Tolerance mm : + 0.25
Check tolerance cm3/1000s.	: +- 4.0	Rated speed rpm : 530
Spreed		+ guide sleeve + travel mm : 2.93 + Tolerance mm : + 0.25
		† Tolerance mm : + 0.25
Tolerance cm3/1000 strokes	: 8.0	Rated speed rpm : 1640 guide sleeve
_, , , ,		
Check tolerance cm3/1000s.	: 12.0	+ travel mm : 11.50 + Tolerance mm : + 0.50
Rated speed rpm	: 325	GUIDE SLEEVE POSITION
		+
Rack travel in mm	n: 4.50	+ control lever
Tolerance mm	: +- 0.10	position degree : - 1
	. , 0.10	
Del. quantity		+ Rated speed rpm : 1450
cm3/1000 strokes	: 26.0	+
Tolerance		+ Rack travel in mm : 10.80
cm3/1000 strokes	· + 25	+ Tolerance mm : + 1.30
		rocci di loc limi
Check tolerance		Ť
cm3/1000s.	: +- 5.0	
Spreed		+ FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance		1
cm3/1000 strokes	: 4.0	Rated speed rpm : 1000
= -	. 4.0	
Check tolerance	0.0	+ Aneroid pressure
cm3/1000s.	: 0.8	+ hPa : 1000
		+ Del. quantity
		+ cm3/1000 strokes : 144.0
(B) SETTING OF IN	LIECTION PUMP	† Tolerance
WITH GOVERNOR		+ cm3/1000 strokes : +- 1.0
MILL GOVERNOR		
		+ Check tolerance
		+ cm3/1000s. : $+$ 4.0
GUIDE SLEEVE TRAV	'EL	+ Spreed
		+ Tolerance
Rated speed rpm	: 1353	+ cm3/1000 strokes : 8.0
guide sleeve		- Check tolerance
travel mm	: 8.29	+ cm3/1000s. : 12.0
		T (11137 10003). 12.0
Tolerance mm	: ← 0.20	· ·
		†
Rated speed rpm	: 325	+
guide sleeve		+ CONTROL LEVER
travel mm	: 1.33	+
Tolerance mm	: ← 0.15	control lever
TOCCY GRIDE HAIT		position degree : 122.0
Dakad assault	. 000	
Rated speed rpm	: 900	+ tolerance degree : +- 4.0
guide sleeve		+
travel mm	: 4.92	+ RATED SPEED
Tolerance mm	: +- 0.25	rack travel mm : 10.85
. C.C. GIVE THE		+ Rated speed rpm : 1342
D-41	. /05	
Rated speed rpm	: 405	+ Tolerance 1/min : + 5
guide sleeve		+ Check
travel mm	: 2.07	+ speed 1/min : +- 10
·		• •

rack travel mm : 4.00
Rated speed rpm : 1460
Tolerance 1/min : +- 15
Check
speed 1/min : +- 20
rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1600

LOW IDLE

control lever position degree : 83.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 325 rack travel mm : 4.50 Tolerance mm : +- 0.10

Rated speed rpm : 375

TORQUE CONTROL
Rated speed rpm : 1000
rack travel mm : 11.85
Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 11.85 Tolerance mm : $\leftarrow 0.05$

Rated speed rpm : 1300 rack travel mm : 11.85 Tolerance min : +--0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.85
Tolerance mm : + 0.05

Rated speed rpm : 600
Pressure hPa : rack travel mm : 7.35
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 370 rack travel mm : 10.75 Tolerance mm : \div 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000 Rated speed rpm : 700

Del. quantity

cm3/1000 strokes : 145.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000S. : \leftarrow 5.0

rack travel mm : 11.85 Tolerance mm : +- 0.05

Aneroid pressure

hPa : -Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 94.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : \leftarrow 3.5

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.50 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes	:	26.0
Tolerance cm3/1000 strokes	: +-	2.5
Check tolerance cm3/1000s. Spreed	: +-	5.0
Tolerance cm3/1000 strokes	:	4.0
Check tolerance cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.09.98 Test oil : ISO 4113

Combination No. : 0 402 046 861

Injection pump

Pump designation : PE6P110A320RS3329 EP type number : 0 412 016 743

Governor

Governer design. : RQ325/1300PA1150 Governer no. : 0 421 801 716

Cust. part No. : 1284420/6

Customer-spec. information Customer : DAF : NS156M Motor Power KW : 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : \leftarrow 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 5.25 : +- 0.05 Tolerance mm Check : +- 0.10 tolerance mm

Rack travel in mm : 20.50 : +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. 1 :

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85 Tolerance mm : +- 0.05

K25

Del. quantity cm3/1000 strokes	: 144.0	Tolerance mm : +- 0.10
Tolerance		+ Rated speed rpm : 590 guide sleeve
cm3/1000 strokes	: +- 1.0	travel mm : 6.00
CHIDA LOCA 211 OVE2	1.0	Tolerance mm : + 0.10
Check tolerance		
cm3/1000s.	: +- 4.0	Rated speed rpm : 1570
ChD/10003.	. 1 4.0	guide steeve
Canada d		_ + travel mm : 11.50
Spreed		
Talanama-		+ Tolerance mm : +- 0.50
Tolerance	. 80	†
cm3/1000 strokes	: 8.0	CHIEF OF ECONTROL
		_ + GUIDE SLEEVE POSITION
Check tolerance	4.5	†
cm3/1000s.	: 12.0	†
	***************************************	_ + control lever
		position degree : 109
		+ Rated speed rpm : 650
Rated speed rpm	: 325	+
, ,		Rack travel in mm : 20.00
Rack travel in mm	: 4.50	+ Tolerance mm : + 0.80
	: +- 0.10	+
Del. quantity	3.13	
cm3/1000 strokes	: 26.0	FULL LOAD DELIVERY AT FULL LOAD STO
	. 20.0	T FOLL COND DELIVERY AT FOLL LOAD 310
Tolerance	25	T Pated speed now : 1000
cm3/1000 strokes	; 	+ Rated speed rpm : 1000
Check tolerance		+ Aneroid pressure
	: 5.0	+ hPa : 1000
Spreed		+ Del. quantity
Tolerance		+ cm3/1000 strokes : 144.0
cm3/1000 strokes	: 4.0	+ Tolerance
Check tolerance		+ cm3/1000 strokes : +- 1.0
cm3/1000s.	: 8.0	+ Check tolerance
		+ cm3/1000s. : +- 4.0
		Spreed
(B) SETTING OF IN	JECTION PUMP	+ Tolerance
WITH GOVERNOR		+ cm3/1000 strokes : 8.0
HATTI GOVERNOU		Check tolerance
		- + cm3/1000s. : 12.0
CHINE CHECKE TONK	=	I 12.0
GUIDE SLEEVE TRAVI	EL .	I
Dated opend app	: 1351	Ī
Rated speed rpm	. 1221	CONTROL LEVED
guide sleeve		+ CONTROL LEVER
travel mm	: 6.37	T control lower
Tolerance mm	: ← 0.10	+ control lever
	3 -5	position degree : 93.0
Rated speed rpm	: 325	tolerance degree : +- 4.0
guide sleeve		†
travel mm	: 1.99	+ RATED SPEED
Tolerance mm	: +- 0.10	+ rack travel mm : 10.85
		+ Rated speed rpm : 1345
Rated speed rpm	: 1300	+ Tolerance 1/min : + 5
guide sleeve	. ,555	+ Check
travel mm	: 6.00	= speed 1/min : +- 10
		T sheen tyllill : 10
Tolerance mm	: +- 0.10	T
n	127	+ rack travel mm : 4.00
Rated speed rpm	: 427	Rated speed rpm : 1450
guide sleeve	_	+ Tolerance 1/min : +- 15
travel mm	: 3.54	+

Check 20 speed 1/min : +rack travel mm : 0.50 Tolerance mm : + 0.50 0.50 Rated speed rpm : 1600 LOW IDLE control lever position degree : 72.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 225 CRT mm min. : > 5.90 Testing: Rated speed rpm : 325 4.50 rack travel mm Tolerance mm : + 0.10 rack travel mm : 2.0 Rated speed rpm : 415 2.00 TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 11.85 Tolerance mm : +- 0.05 Rated speed rpm : 700 rack travel mm : 11.85 : **←** 0.05 Tolerance mm Rated speed rpm : 1300 rack travel mm : 11.85
Tolerance mm : + 0.05 Rated speed rpm : 1000 rack travel mm : 12.85
Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 600

Tolerance mm : \leftarrow 0.05 600 Rated speed rpm : Pressure hPa rack travel mm : **←** 0.20 Tolerance mm **MEASUREMENT** Rated speed rpm : 600 370 Pressure hPa 10.75 rack travel mm Tolerance mm : \leftarrow 0.05 200 Pressure hPa : FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1000 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 145.0 Tolerance cm3/1000 strokes : +- 2.0Check tolerance : +- 5.0 cm3/1000s. rack travel mm : 11.85 Tolerance mm : \leftarrow 0.05 Aneroid pressure hPa Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 94.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000S. : +- 3.5

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.50 Tolerance mm : +- 0.10

K27

Pressure hPa :

rack travel mm : 11.85

1000

Del. quantity cm3/1000 strokes	:	26.0
Tolerance cm3/1000 strokes Check tolerance	: +-	2.5
cm3/1000s.	; 	5.0
Tolerance cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 08.09.98 : ISO 4113

Combination No. : 0 402 046 873

Injection pump

Pump designation : PES6P110A320RS3329

EP type number : 0 412 016 743

Governor

Governer design. : RQV325...1250PA1251

Governer no.

: 0 421 814 164

Cust. part No. : 1305227

Customer-spec. information Customer : DAF

Motor Power KW

: NS177M : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

: +0 : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar

: +- 0.1

Tolerance l/h: \leftarrow 10.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

L01

Outside diameter : 6.0

x inside diameter :

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26 0 Tolerance bar : +- 1.0

: 5.25 : +- 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

: ← 0.75 tolerance °NW

Start of delivery mark

: **←** 0.10 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.25

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes	: 149.5	+ Tolerance mm : + 0.25 + Rated speed rpm : 1510
Tolerance cm3/1000 strokes	: + 1.0	guide sleeve : 13.50
Check tolerance cm3/1000s.	: + 4.0	Tolerance mm : - 0.50
Spreed		+ GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes	: 8.0	control lever position degree : - 1 Rated speed rpm : 1360
Check tolerance cm3/1000s.	: 12.0	Rack travel in mm : 11.25 Tolerance mm : +- 1.30
Rated speed rpm	: 325	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm	: 4.40 : +- 0.10	Rated speed rpm : 1000 Aneroid pressure
Del. quantity cm3/1000 strokes Tolerance		+ hPa : 1500 + Del. quantity + cm3/1000 strokes : 149.5
cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.5 : + 5.0	Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance
Spreed Tolerance cm3/1000 strokes	: 4.0	+ cm3/1000S. : +- 4.0 + Spreed + Tolerance
Check tolerance cm3/1000s.	: 8.0	+ cm3/1000 strokes : 8.0 + Check tolerance + cm3/1000S. : 12.0
(B) SETTING OF IN	JECTION PUMP	†
		+ CONTROL LEVER
GUIDE SLEEVE TRAVI	EL .	control lever position degree : 123.0
Rated speed rpm guide sleeve		tolerance degree : + 4.0
travel mm Tolerance mm	: 10.40 : +- 0.15	+ RATED SPEED + rack travel mm : 11.25 + Rated speed rpm : 1290
Rated speed rpm guide sleeve	: 325	Tolerance 1/min : +- 5 + Check
travel mm Tolerance mm	: 1.25 : +- 0.20	+ speed 1/min : +- 10 + rack travel mm : 4.00
Rated speed rpm guide sleeve	: 868	Rated speed rpm : 1375 Tolerance 1/min : +- 15 Check
travel mm Tolerance mm	: 5.45 : + 0.25	speed 1/min : +- 20
Rated speed rpm guide sleeve	: 520	rack travel mm : 0.50 Tolerance mm : + 0.50
travel mm	: 3.02	+ Rated speed rpm : 1500

LOW IDLE

control lever

position degree : 76.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 5.90

Testing:

Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : +- 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 12.25 Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 12.25 Tolerance mm : +~ 0.10

Rated speed rpm : 1250 rack travel mm : 12.25 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 12.25
Tolerance mm : + 0.05

Rated speed rpm : 600
Pressure hPa : rack travel mm : 7.00
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 430 rack travel mm : 10.90 Tolerance mm : +- 0.05

Pressure hPa : 220 rack travel mm : 8.10 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 153.0
Tolerance

cm3/1000 strokes : + 3.0 Check tolerance

cm3/1000s. : +- 6.0

rack travel mm : 12.25 Tolerance mm : + 0.10

Aneroid pressure

hPa : -Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 92.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000S. : +- 3.5

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.40
Tolerance mm : + 0.10
Del. quantity
cm3/1000 strokes : 26.0
Tolerance

cm3/1000 strokes : + 2.5 Check tolerance

cm3/1000S. : +- 5.0 Spreed

Tolerance

cm3/1000 strokes : 4.0 Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.09.98 Test oil : ISO 4113

Combination No. : 0 402 046 881

Injection pump

Pump designation : PES6P110A320RS3329

EP type number : 0 412 016 743

Governor

Governer design. : RQ325...1250PA1370

Governer no. : 0 421 801 828

Cust. part No. : 1305236/2

Customer—spec. information Customer : DAF

: NS177M

Motor Power KW

: 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : \leftarrow 2.0

Overflow valve : 1 417 413 000

1.5 Inlet press. bar :

Tolerance bar : +- 0.1

Overflow quantity
min. L/h : 140
Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : +- 1.5

L05

Test lines : 1 680 750 008

Outside diameter : 2.0

x inside diameter : 6.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50

Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

		+
Rack travel in m	n: 12.25	Rated speed rpm : 426
Tolerance mm	: +- 0.05	guide sleeve
		_
Del. quantity	440.5	Tolerance mm : +- 0.10
cm3/1000 strokes	: 149.5	Poted amond many 1 500
Talamana		_ + Rated speed rpm : 590
Tolerance cm3/1000 strokes	: + 1.0	+ guide sleeve + travel mm : 6.00
CIRS/ TODO STPORES	; += 1.0	Tolerance mm : + 0.10
Check tolerance		_ T 70001 di 100 min 0.10
cm3/1000s.	: +- 4.0	Rated speed rpm : 1460
		_ + guide sleeve
Spreed		+ travel mm : 11.50
		† Tolerance mm : +- 0.50
Tolerance	0.5	†
cm3/1000 strokes	: 8.0	GUIDE SLEEVE POSITION
Check tolerance		- + GOIDE SLEEVE POSITION
cm3/1000s.	: 12.0	I
(11)57 (0005).	. ,2.0	- control lever
		position degree : 109
		+ '
Rated speed rpm	: 325	+ control lever
		+ position degree : 109
Rack travel in mm		Rated speed rpm : 600
Tolerance mm	: ← 0.10	
Del. quantity cm3/1000 strokes	: 26.0	+ Rack travel in mm : 20.00 + Tolerance mm : +- 0.80
Tolerance	. 20.0	T Total direct thin
cm3/1000 strokes	: +- 3.0	
Check tolerance		FULL LOAD DELIVERY AT FULL LOAD STOP
CITCUR COCCI GITICO		
cm3/1000s.	: 6.0	+
cm3/1000s. Spreed	: 6.0	Rated speed rpm : 1000
cm3/1000s. Spreed Tolerance		Rated speed rpm : 1000 Aneroid pressure
cm3/1000s. Spreed Tolerance cm3/1000 strokes		Rated speed rpm : 1000 Aneroid pressure hPa : 1500
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity
cm3/1000s. Spreed Tolerance cm3/1000 strokes		Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0	Rated speed rpm : 1000 Aneroid pressure HPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 4.0 : 8.0	Rated speed rpm : 1000 Aneroid pressure HPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0 : 8.0	Rated speed rpm : 1000 Aneroid pressure HPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN	: 4.0 : 8.0	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR	: 4.0 : 8.0 JECTION PUMP	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN	: 4.0 : 8.0 JECTION PUMP	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV	: 4.0 : 8.0 NECTION PUMP	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm	: 4.0 : 8.0 NECTION PUMP	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	: 4.0 : 8.0 NECTION PUMP	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	: 4.0 : 8.0 NECTION PUMP	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	: 4.0 : 8.0 NECTION PUMP	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 4.0 : 8.0 NECTION PUMP	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 4.0 : 8.0 UECTION PUMP EL : 1292 : 6.37 : ← 0.15 : 325	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000s strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 4.0 : 8.0 UECTION PUMP TEL : 1292 : 6.37 : + 0.15 : 325 : 1.99	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 4.0 : 8.0 UECTION PUMP EL : 1292 : 6.37 : ← 0.15 : 325	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000s strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 4.0 : 8.0 NECTION PUMP TEL : 1292 : 6.37 : +- 0.15 : 325 : 1.99 : +- 0.20	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 97.0 tolerance degree : +- 4.0
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 4.0 : 8.0 UECTION PUMP TEL : 1292 : 6.37 : + 0.15 : 325 : 1.99	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000s trokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 97.0 tolerance degree : +- 4.0 RATED SPEED
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 4.0 : 8.0 NECTION PUMP TEL : 1292 : 6.37 : +- 0.15 : 325 : 1.99 : +- 0.20	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 97.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.25
cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 4.0 : 8.0 NECTION PUMP TEL : 1292 : 6.37 : + 0.15 : 325 : 1.99 : + 0.20 : 1000	Rated speed rpm : 1000 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 97.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.25

Check speed 1/min	: +- 10
rack travel mm Rated speed rpm Tolerance 1/min	: 1370
Check speed 1/min	: +- 20
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 1500
LOW IDLE	
control lever position degree tolerance degree	: 75.0 : ← 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 225
CRT mm min.	: > 6.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 4.40 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 415 : + 20
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1000 : 12.25 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1250 : 12.25 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.25 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: : :		600 1500 12.25 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: : :	+-	600 - 7.00 0.20
MEASUREMENT			
Rated speed rpm	:		600
Pressure hPa rack travel mm Tolerance mm	:	+-	430 10.90 0.05
Pressure hPa rack travel mm Tolerance mm	:	+-	220 8.10 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure			
hPa	:		-
Rated speed rpm	:	11	000
Del. quantity			
cm3/1000 strokes	:		92.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+	4.0

LOW IDLE

Rated speed rpm	:		325
Rack travel in mm Tolerance mm	:	+-	4.40 0.10
Del. quantity cm3/1000 strokes Tolerance	:		26.0
cm3/1000 strokes Check tolerance	:	+-	3.0
cm3/1000s.	:	+-	6.0
Spreed Tolerance			
cm3/1000 strokes	:		4.0
Check tolerance cm3/1000s.	:		8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.09.98 Test oil : ISO 4113

Combination No. : 0 402 046 882

Injection pump

Pump designation : PES6P110A320RS3329 EP type number : 0 412 016 743

Governor

Governer design. : RQV325...1250PA1385

Governer no. : 0 421 814 209

Cust. part No. : 1351707/1

Customer—spec. information

Customer : DAF

Motor : NS177M-CBP Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

: 40 temp. °C temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 140
Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm: 12.80 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2

: 0- 60- 120- 180 Phasing

: - 240- 300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.70

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.70

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

	+
Rack travel in mm : 12.80 Tolerance mm : + 0.05	+ Rated speed rpm : 520 + guide sleeve
Tolerance mm : + 0.05	travel mm : 3.02
Del. quantity	Tolerance mm : + 0.25
cm3/1000 strokes : 154.5	+
T . I	Rated speed rpm : 1510
Tolerance cm3/1000 strokes : +- 1.0	+ guide sleeve + travel mm : 13.50
Charles 1. 1. 1. C	+ Tolerance mm : + 0.50
Check tolerance	+
cm $3/1000$ S. : \leftarrow 4.0	GUIDE SLEEVE POSITION
Spreed	GOIDE SLEEVE FOSTITON
5	+
Tolerance	+ control lever
cm3/1000 strokes : 8.0	+ position degree : -1 + Rated speed rpm : 1360
Check tolerance	Rated Speed rpill . 1300
cm3/1000s. : 12.0	Rack travel in mm: 11.80
	+ Tolerance mm : + 1.30
	<u> </u>
Rated speed rpm : 325	FULL LOAD DELIVERY AT FULL LOAD STOP
•	+
Rack travel in mm : 4.40	+ Rated speed rpm : 1000
Tolerance mm : +- 0.10 Del. quantity	+ Aneroid pressure + hPa : 1500
cm3/1000 strokes : 26.0	Del. quantity
Tolerance	+ cm3/1000 strokes : 154.5
cm3/1000 strokes : + 2.5	+ Tolerance
Check tolerance cm3/1000s. : +- 6.0	+ cm3/1000 strokes : + 1.0 + Check tolerance
cm3/1000s. : + 6.0 Spreed	+ cm3/1000s. : +- 4.0
Tolerance	Spreed
cm3/1000 strokes : 4.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : 8.0
cm3/1000s. : 8.0	+ Check tolerance + cm3/1000S. : 12.0
	+ this/1800s 12.8
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+ CONTROL LEVER
	T CONTROL LEVER
GUIDE SLEEVE TRAVEL	+ control lever
	position degree : 123.0
Rated speed rpm : 1303	tolerance degree : + 4.0
guide sleeve travel mm : 10.33	RATED SPEED
Tolerance mm : +- 0.15	+ rack travel mm : 11.80
	+ Rated speed rpm : 1290
Rated speed rpm : 325	+ Tolerance 1/min : + 5
guide sleeve travel mm : 1.25	+ Check + speed 1/min : + 10
Tolerance mm : +- 0.20	- Speed 1/111111 . += 10
	rack travel mm : 4.00
Rated speed rpm : 865	+ Rated speed rpm : 1375
guide sleeve	Tolerance 1/min : +- 15
travel mm : 5.43 Tolerance mm : +- 0.25	+ Check + speed 1/min : + 20
FOLEFAILE INIII . ' U.E.J	T Specu Trimiti

Rated speed rpm : 1500

LOW IDLE

control lever

position degree : 77.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : ← 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 12.80 : +- 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600 Pressure hPa : 1500 rack travel mm : 12.80 Tolerance mm: \leftarrow 0.05

Rated speed rpm : 600 Pressure hPa : 7.30 rack travel mm Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 210 rack travel mm : 8.60

Tolerance mm : +- 0.10

Pressure hPa : 410 rack travel mm : 11.40 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm : 1000 Del. quantity

cm3/1000 strokes : 93.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 4.40 Tolerance mm : + 0.10 Del. quantity

cm3/1000 strokes : 26.0 Tolerance

cm3/1000 strokes : +- 2.5

Check tolerance cm3/1000s.

: +- 6.0 Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

: 8.0 cm3/1090s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.09.98 Test oil : ISO 4113

Combination No. : 0 402 046 884

Injection pump

Pump designation : PES6P110A320RS3329

EP type number : 0 412 016 743

Governor

Governer design. : RQ325...1250PA1396

Governer no. : 0 421 801 838

Cust. part No. : 1351855/0

Customer-spec. information

Customer : DAF : NS177M (CBP) Motor

Motor : NS177M Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

temp. °C : 40
Tolerance °C : +- 2.0

40

Overflow valve : 1 417 413 000

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Overflow quantity
min. l/h : 140
Tolerance l/h : +- 20.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 2.0

x inside diameter :

6.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50

Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW

: +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

4	
Rack travel in mm: 12.80	- Rated speed rpm : 426
Tolerance mm : + 0.05	guide sleeve
+	- travel mm : 3.48
Del. quantity	- Tolerance mm : +- 0.10
cm3/1000 strokes : 154.5	•
+	Rated speed rpm : 590
Tolerance	guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 6.00
	· Tolerance mm : +- 0.10
Check tolerance	•
cm3/1000s. : + 4.0 +	Rated speed rpm : 1460
	guide sleeve
Spreed	travel mm : 11.50
<u> </u>	Tolerance mm : +- 0.50
Tolerance +	•
cm3/1000 strokes : 8.0 +	GUIDE SLEEVE POSITION
Check tolerance	GOIDE SCEENE LOSTITOM
cm3/1000s. : 12.0	•
CIID/10003 12.0	control lever
	position degree : 109
<u> </u>	Rated speed rpm : 600
Rated speed rpm : 325	· · · · · · · · · · · · · · · · · · ·
nacea opeca (pii)	Rack travel in mm : 20.00
Rack travel in mm: 4.40	Tolerance mm : +- 0.80
Tolerance mm : + 0.10	
Del. quantity	
cm3/1000 strokes : 26.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance +	
cm $3/1000$ strokes : \leftarrow 3.0	Rated speed rpm : 1000
Check tolerance	Aneroid pressure
cm3/1000s. : $+$ 6.0 $+$	hPa : 1500
Spreed	Del. quantity
Tolerance	cm3/1000 strokes : 154.5
cm3/1000 strokes : 4.0 +	Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000S. : 8.0	cneck toterance cm3/1000s. : +- 4.0
Ι	Spreed
(B) SETTING OF INJECTION PUMP	Tolerance
WITH GOVERNOR	cm3/1000 strokes : 8.0
#1111 00 ¢C(\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Check tolerance
	cm3/1000s. : 12.0
GUIDE SLEEVE TRAVEL	
+	
Rated speed rpm : 1292 +	
guide sleeve	CONTROL LEVER
guide sleeve travel mm : 6.36	
guide sleeve	control lever
guide sleeve travel mm : 6.36 Tolerance mm : + 0.15	control lever position degree : 94.0
guide sleeve travel mm : 6.36 Tolerance mm : + 0.15 Rated speed rpm : 325	control lever
guide sleeve travel mm : 6.36 Tolerance mm : + 0.15 Rated speed rpm : 325 guide sleeve	control lever position degree : 94.0 tolerance degree : +- 4.0
guide sleeve travel mm : 6.36 Tolerance mm : + 0.15 Rated speed rpm : 325 guide sleeve travel mm : 1.99	control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED
guide sleeve travel mm : 6.36 Tolerance mm : + 0.15 Rated speed rpm : 325 guide sleeve	control lever position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.80
guide sleeve travel mm : 6.36 Tolerance mm : + 0.15 Rated speed rpm : 325 guide sleeve travel mm : 1.99 Tolerance mm : + 0.20	control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED
guide sleeve travel mm : 6.36 Tolerance mm : + 0.15 Rated speed rpm : 325 guide sleeve travel mm : 1.99 Tolerance mm : + 0.20 Rated speed rpm : 1250	control lever position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.80 Rated speed rpm : 1290
guide sleeve travel mm : 6.36 Tolerance mm : + 0.15 Rated speed rpm : 325 guide sleeve travel mm : 1.99 Tolerance mm : + 0.20 Rated speed rpm : 1250 guide sleeve	control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.80 Rated speed rpm : 1290 rack travel mm : 4.00
guide sleeve travel mm : 6.36 Tolerance mm : + 0.15 Rated speed rpm : 325 guide sleeve travel mm : 1.99 Tolerance mm : + 0.20 Rated speed rpm : 1250	control lever position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.80 Rated speed rpm : 1290

Check

speed 1/min : + 20

rack travel mm : 0.50 Tolerance mm : + 0.50

Rated speed rpm : 1500

LOW IDLE

control lever

position degree : 71.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 5.77

Testing:

Rated speed rpm : 325 rack travel mm : 4.40

Tolerance mm : + 0.10

rack travel mm : 2.00 Rated speed rpm : 414

Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 12.80 Tolerance mm : + 0.05

Rated speed rpm : 1250 rack travel mm : 12.80 Tolerance mm : \leftarrow 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 12.80
Tolerance mm : + 0.05

Rated speed rpm : 600

Pressure hPa : - rack travel mm : 7.30

Tolerance mm : +- 0.20

L14

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 310 rack travel mm : 11.40 Tolerance mm : + 0.05

Pressure hPa : 110 rack travel mm : 8.60 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm : 1000

Del. quantity

cm3/1000 strokes : 93.0

Tolerance cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 4.40

Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 26.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. :

8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.09.98 Test oil : ISO 4113

Combination No. : 0 402 746 995

Injection pump

Pump designation : PES6P120A320RS7343 EP type number : 0 412 726 915

Governor

Governer design. : RQV300...1000PA1160K

Governer no. : 0 421 815 420

Cust. part No. : CCEP 5144A 66-232

Customer-spec. information

Customer : RENAULT V.I.

Motor : MIDR 062356 A/41

Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05

Check

tolerance mm : ← 0.10

Rack travel in mm : 11.00 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

. 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

°NW after s.o.d. : -0.40

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

mm : 21.00 and maximum rack

travel : 11.00

Difference ° CS : 2.25

CRT ZERO POSITION

Rack travel in mm Tolerance mm	12.80 : +- 0.05	
BASIC SETTING		
Rated speed rpm	: 1000	
Del. quantity cm3/1000 strokes	: 350.0	
Tolerance cm3/1000 strokes	: + 1.0	
Check tolerance cm3/1000s.	: +- 4.0	
Spreed		
Tolerance cm3/1000 strokes	: 5.0	
Check tolerance cm3/1000s.	: 9.0	
Rated speed rpm	: 300	
Rack travel in mm Tolerance mm Del. quantity	: ← 0.10	
cm3/1000 strokes Tolerance cm3/1000 strokes		
Check tolerance cm3/1000s.	: +- 5.0	
Spreed Tolerance		
cm3/1000 strokes Check tolerance		
cm3/1000s.	: 12.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR		
GUIDE SLEEVE TRAV	EL	
Rated speed rpm	: 1103	
guide sleeve travel mm	: 8.70	
Tolerance mm	: + 0.25	
Rated speed rpm guide sleeve		
travel mm	: 1.32	

: +- 0.25
: 823
: 5.92 : +- 0.25
: 405
: 2.43 : +- 0.25
: 455
: 2.98 : + 0.25
: 550
: 3.66 : + 0.25
: 1440
: 13.50 : +- 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1 Rated speed rpm : 1300

Rack travel in mm : 11.60 Tolerance mm : \leftarrow 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

1000 Rated speed rpm : Aneroid pressure 1200 hPa Del. quantity cm3/1000 strokes : 350.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance cm3/1000s. 9.0

CONTROL LEVER

		1		
control lever position degree tolerance degree			ANEROID/ALTITUDE COMPENSATOR TEST	
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 1100	 	SETTING Rated speed rpm	: 1000
rack travel mm Rated speed rpm Tolerance 1/min	: -8 .80 : 1210	+	Pressure hPa Rated speed rpm Pressure hPa	: 1200 : 1000 : –
rack travel mm Tolerance mm Rated speed rpm	: +- 0.50	‡	rack travel mm Tolerance mm MEASUREMENT	: -3.90 : +- 0.30
		-	Rated speed rpm	: 1000
LOW IDLE		+	Pressure hPa rack travel mm Tolerance mm	: -2.80
control lever position degree tolerance degree		‡ ‡	Pressure hPa rack travel mm Tolerance mm	: 520 : -1.70 : +- 0.05
Testing:			Start interlock	
Rated speed rpm rack travel mm Tolerance mm	: 300 : −7.60 : ← 0.10	+	Rated speed rpm Rated speed rpm	
Rated speed rpm	: 200		Check speed 1/min	: > 80
CRT mm max.	: < -6.60	1	Check speed 1/min	
Rated speed rpm	: 390	†		
TORQUE CONTROL Rated speed rpm	: 1000	 ‡	FUEL DELIVERY CHA	ARACIERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 600 : -0.45 : + 0.15	† + + +	Aneroid pressure hPa Rated speed rpm Del. quantity	
Rated speed rpm rack travel mm Tolerance mm	: 800 : 0.10 : + 0.15	+ + + +	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: +- 3.0
Rated speed rpm rack travel mm Tolerance mm	: 350 : -1.70 : +- 0.30	† † †	cm3/1000s.	: 0.10
		‡	Tolerance mm Aneroid pressure	: +- U.()
		Į	hPa	: -

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 245.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000S. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : $\leftarrow 0.75$

Del. quantity

cm3/1000 strokes : 185.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

: + 19.0 cm3/1000S.

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : -7.60 Tolerance mm : ← 0.10

Del. quantity

cm3/1000 strokes : 38.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : ← 5.0

Spreed

Tolerance

8.0 cm3/1000 strokes :

Check tolerance

cm3/1000S. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 30.03.93 : ISO 4113

Combination No. : 0 403 466 143

Injection pump

Pump designation : PES6MW100/120RS1137

: -2

EP type number : 0 413 406 180

Governor

Governer design. : RSV550...1100MW2A335

Governer no.

: 0 420 085 222

Cust. part No. : 3921171

Customer-spec. information

Customer : CDC

Motor

: 6 CTA-8.3

Power KW

: 176.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C

Tolerance $^{\circ}C$: + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

: 208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter :

x length mm : 600

2.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : + 1.0

Prestroke mm : 3.55 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

°NW after s.o.d. : 10.00

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.35

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 141.0

Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	rack travel mm : 4.00 Rated speed rpm : 1255 Tolerance 1/min : +- 15
Spreed	
Tolerance cm3/1000 strokes : 4.0	LOW IDLE
Check tolerance cm3/1000s. : 7.5	<pre>control lever position degree : 72.0 tolerance degree : +- 4.0</pre>
‡	Setting point w/out bumper spring
Rack travel in mm: 6.70 Tolerance mm: + 0.10	Rated speed rpm : 550 rack travel mm : 7.20 Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 100
+	CRT mm min. : > 19.00
	Testing:
control lever position degree : - 3	Rated speed rpm : 550 rack travel mm : 6.70 Tolerance mm : + 0.10
Rated speed rpm : 800	
Rack travel in mm : 0.65 Tolerance mm : +- 0.35	TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.35 Tolerance mm : +- 0.05
governor spring pre-tension click setting x : 4.00	Rated speed rpm : 750 rack travel mm : 14.05 Tolerance mm : +- 0.05
CONTROL LEVER	Rated speed rpm : 1000 rack travel mm : 14.05 Tolerance mm : + 0.05
control lever position degree : 94.0 tolerance degree : +- 4.0	ANEROID/ALTITUDE
RATED SPEED rack travel mm : 12.30 Rated speed rpm : 1170 Tolerance 1/min : +- 5	COMPENSATOR TEST SETTING
rack travel mm : 4.00 Rated speed rpm : 1245 Tolerance 1/min : + 5	Rated speed rpm : 500 Pressure hPa : 1000 rack travel mm : 14.05 Tolerance mm : +- 0.05
rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1350	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.15

Tolerance mm : +- 0.05

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 675 rack travel mm : 13.00 Tolerance mm : + 0.20

Pressure hPa : 450 rack travel mm : 11.05 Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000 Rated speed rpm : 800 Del. quantity

cm3/1000 strokes : 154.0

Tolerance cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s. : +- 5.0

cm3/1000s. Spreed

Tolerance cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 9.0

rack travel mm : 14.05 Tolerance mm : + 0.05

Aneroid pressure

hPa : -Rated speed rpm : 500

Rated speed rpm : Del. quantity

cm3/1000 strokes : 81.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

Del. quantity

cm3/1000 strokes : 140.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 13.0

LOW IDLE

Rack travel in mm : 6.70 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 03.09.98 Test oil : ISO 4113

Combination No. : 0 403 546 022

Injection pump

Pump designation: PE6MW100/720RS1229

EP type number : 0 413 506 108

Governor

Governer design. : RQ250/1200MW94-2

Governer no. : 0 420 082 047

Cust. part No. :

Customer-spec. information

Customer : SNF

: WD 612.95

Motor Power KW

: 191.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C

40

Tolerance °C

: **←** 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x Length mm : 600

L22

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 31.0

Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300 : **←** 0.50

Tolerance Check

tolerance °NW

: ← 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 14.45

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 152.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000S.

: +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance cm3/1000s. : 7.5	control lever position degree : 109
Rated speed rpm : 250	Rated speed rpm : 800 Rack travel in mm : 20.00
Rack travel in mm : 9.20 Tolerance mm : +- 0.10 Del. quantity	Tolerance mm : + 0.80
cm3/1000 strokes : 20.0 Tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : +- 2.0 Check tolerance	Rated speed rpm : 1200 Aneroid pressure
cm3/1000S. : + 4.5 Spreed	+ hPa : 1200 - Del. quantity
Tolerance cm3/1000 strokes : 3.5	- cm3/1000 strokes : 152.0 - Tolerance
Check tolerance cm3/1000S. : 5.5	cm3/1000 strokes : +- 1.0 Check tolerance
	- cm3/1000s. : +- 4.0 - Spreed
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance cm3/1000 strokes : 4.0
GUIDE SLEEVE TRAVEL	+ Check tolerance + cm3/1000S. : 7.5
	Ţ
Rated speed rpm : 1249 guide sleeve	CONTROL LEVER
travel mm : 6.34 Tolerance mm : + 0.10	control lever
Rated speed rpm : 250 guide sleeve	+ position degree : 100.0 + tolerance degree : +- 4.0
travel mm : 1.18	RATED SPEED
Toterance mm : +- 0.10	+ rack travel mm : 13.50 + Rated speed rpm : 1245 _
Rated speed rpm : 1200 guide sleeve	+ Tolerance 1/min : + 5
travel mm : 6.00 Tolerance mm : + 0.10	+ rack travel mm : 4.00 + Rated speed rpm : 1340
Rated speed rpm : 423 guide sleeve	+ Tolerance 1/min : + 15 + + rack travel mm : 0.50
travel mm : 5.04	+ Tolerance mm : + 0.50
Tolerance mm : +- 0.10	Rated speed rpm : 1400
Rated speed rpm : 500 guide sleeve	+ rack travel mm : 4.00
travel mm : 6.00 Tolerance mm : + 0.10	+
Rated speed rpm : 1410 guide sleeve	LOW IDLE
travel mm : 11.50 Tolerance mm : +- 0.50	t control lever tolerance degree : 78.0 tolerance
GUIDE SLEEVE POSITION	T total ance degree 4.0

Setting point w/out bumper spring	+ Check + speed 1/min : < 200
Rated speed rpm : 150	1
CRT mm min. : > 10.00	FUEL DELIVERY CHARACTERISTICS
Testing:	Anapaid paggung
Rated speed rpm : 250 rack travel mm : 9.20 Tolerance mm : + 0.10	+ Aneroid pressure + hPa : 1200 - Rated speed rpm : 700 + Del. quantity - cm3/1000 strokes : 154.0
TORQUE CONTROL	Tolerance cm3/1000 strokes : + 2.0
Rated speed rpm : 1200 rack travel mm : 14.45 Tolerance mm : +- 0.05	+ Check tolerance + cm3/1000S. : + 5.0 + Spreed + Tolerance
Rated speed rpm : 700 rack travel mm : 14.45 Tolerance mm : + 0.05	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
ANEROID/ALTITUDE COMPENSATOR TEST	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity
SETTING	cm3/1000 strokes : 99.0
Rated speed rpm : 500 Pressure hPa : 1200 rack travel mm : 14.45 Tolerance mm : +- 0.05	cm3/1000 strokes : +- 1.0 Check tolerance - cm3/1000s. : +- 3.0
Rated speed rpm : 500 Pressure hPa : - rack travel mm : 12.25	STARTING FUEL DELIVERY
Tolerance mm : +- 0.05 MEASUREMENT	+ Rated speed rpm : 100 + Del. quantity + cm3/1000 strokes : 135.0
Rated speed rpm : 500	Tolerance - cm3/1000 strokes : + 5.0
Pressure hPa : 800 rack travel mm : 13.45 Tolerance mm : + 0.15	+ Check tolerance + cm3/1000s. : +- 8.0
Pressure hPa : 600 rack travel mm : 12.55 Tolerance mm : +- 0.05	LOW IDLE
	Rated speed rpm : 250
Start interlock Rated speed rpm : > 80	+ Rack travel in mm : 9.20 + Tolerance mm : +- 0.10 + Del. quantity
Rated speed rpm : < 180	cm3/1000 strokes : 20.0 Tolerance
Check speed 1/min : > 100	+ cm3/1000 strokes : +- 2.0 + Check tolerance + cm3/1000s. : +- 4.5

Spreed
Tolerance
cm3/1000 strokes : 3.5

Check tolerance cm3/1000s.

: 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 15.09.98 : ISO 4113

Combination No. : 0 402 046 884

Injection pump

Pump designation : PES6P110A320RS3329

EP type number : 0 412 016 743

Governor

Governer design. : RQ325...1250PA1396

Governer no. : 0 421 801 838

Cust. part No. : 1351855/1

Customer-spec. information

Customer : DAF

Motor

: NS177M (CBP)

Power KW

: 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Overflow quantity

min. L/h

: 140

min. L/h : 14U
Tolerance l/h : + 20.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter :

2.0

x inside diameter :

6.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25

Tolerance mm

: +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50

Tolerance mm : +- 0.50

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: **←** 0.50

Check

tolerance °NW

: **←** 0.75

Start of delivery mark

Tolerance

: + 0.10

Check

tolerance °NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

-	+
Rack travel in mm : 12.80 - Tolerance mm : +- 0.05 -	Rated speed rpm : 426 guide sleeve
	travel mm : 3.48
Del. quantity - cm3/1000 strokes : 154.5 -	Tolerance mm : +- 0.10
	Rated speed rpm : 590
Tolerance	guide sleeve
cm3/1000 strokes : \leftarrow 1.0	travel mm : 6.00
	Tolerance mm : +- 0.10
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1460
	guide sleeve
Spreed -	travel mm : 11.50
	Tolerance mm : +- 0.50
Tolerance	+
cm3/1000 strokes : 8.0 -	
	GUIDE SLEEVE POSITION
Check tolerance -	+
cm3/1000s. : 12.0 -	+
	- control lever
	position degree : เปรี
-	Rated speed rpm : 600
Rated speed rpm : 325 -	
	Rack travel in mm : 20.00
Rack travel in mm: 4.40	Tolerance mm : +- 0.80
Tolerance mm : +- 0.10	10001 41100 11111
Del. quantity	
cm3/1000 strokes : 26.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	F FOLL LOAD DELIVERY AT FOLL LOAD STOP
cm3/1000 strokes : +- 3.0	- Rated speed rpm : 1000
· · · · · · · · · · · · · · · · · · ·	
Check tolerance	Aneroid pressure
cm $3/1000$ s. : \leftarrow 6.0	- hPa : 1500
Spreed	Del. quantity
Tolerance	cm3/1000 strokes : 154.5
cm3/1000 strokes : 4.0	Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0
cm3/1000s. : 8.0	Check tolerance
+	- cm3/1000s. : +- 4.0
+	- Spreed
(B) SETTING OF INJECTION PUMP	Tolerance
WITH GOVERNOR	- cm3/1000 strokes : 8.0
+	- Check tolerance
	- cm3/1000s. : 12.0
GUIDE SLEEVE TRAVEL	
+	_
Rated speed rpm : 1292	
guide sleeve	- CONTROL LEVER
travel mm : 6.36	
Tolerance mm : \leftarrow 0.15	- control lever
+	- position degree : 94.0
Rated speed rom : 325	- tolerance degree : +- 4.0
guide sleeve	-
travel mm : 1.99	- RATED SPEED
Tolerance mm : + 0.20	- rack travel mm : 11.80
	- Rated speed rpm : 1290
Rated speed rpm : 1250	- Haram alagam i lam i i i i i i i i i i i i i i i i i i i
guide sleeve	
garac stace	- rack travel mm · 4(ii)
$\pm ravel mm$ · $+ COO$	- rack travel mm : 4.00 - Rated speed rnm : 1375
travel mm : 6.00 + Tolerance mm : +- 0.10 +	- rack travel mm : 4.00 - Rated speed rpm : 1375 - Tolerance 1/min : +- 15

Check speed 1/min : +- 20 Rated speed rum : 1500

LOW IDLE

control lever position degree : 71.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 5.77

Testing:

Rated speed rpm : 325 rack travel mm : 4.40 Tolerance mm : +- 0.10

rack travel mm : 2.00 Rated speed rpm : 414 Tolerance 1/min : +- 20

TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 12.80 Tolerance mm: $\leftarrow 0.05$

Rated speed rpm : 1250 rack travel mm : 12.80 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

600 Rated speed rpm : Pressure hPa : 1500
rack travel mm : 12.80
Tolerance mm : + 0.05

Rated speed rpm : 600 Pressure hPa : rack travel mm : 7.30 Tolerance mm : +- 0.20 **MEASUREMENT**

Rated speed rpm : 600

Pressure hPa : rack travel mm : 410 11.40 Tolerance mm : \leftarrow 0.05

Pressure hPa : 210 rack travel mm : 8.60 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 93.0 Tolerance cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +- 4.0

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.40 Tolerance mm : ← 0.10 Del. quantity cm3/1000 strokes : 26.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 6.0

Spreed Tolerance

cm3/1000 strokes : 4.0

8.0

Check tolerance cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.08.98 : ISO 4113

Combination No. : 0 402 076 821

Injection pump

Pump designation : PES6P120A720RS3340 EP type number : 0 412 026 773

Governor

Governer design. : RSV650...1050P8A566

: -6

Governer no. : 0 421 833 615

Cust. part No. :

Customer-spec. information

Customer : NH

Motor

: EP 040 B

Power KW

: 213.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 110
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar

: 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance

: +- 0.50

Check

tolerance °NW

: +- 0.75

Start of delivery blocking

Tolerance

: +- 0.10

Check

tolerance °NW : +- 0.30

Barrel no. : 1

Rated speed rpm : 1025	governor spring pre-tension click setting x : 2.50
Rack travel in mm : 13.35 Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 204.0	Rated speed rpm : 1025 Aneroid pressure hPa : 1700
Tolerance cm3/1000 strokes : + 1.0	Del. quantity cm3/1000 strokes : 204.0 Tolerance
Check tolerance cm3/1000s. : +- 6.0	cm3/1000 strokes : +- 1.0 + Check tolerance + cm3/1000s. : +- 6.0
Spreed	+ Spreed + Tolerance
Tolerance cm3/1000 strokes : 5.0	+ cm3/1000 strokes : 5.0 + Check tolerance + cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	
	CONTROL LEVER
Rated speed rpm : 650	control lever position degree : 93.0
Rack travel in mm : 4.70 Tolerance mm : +- 0.10 Del. quantity	tolerance degree : +- 4.0
cm3/1000 strokes : 23.0 Tolerance	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : + 3.0 Check tolerance	Rated speed rpm : 1067 rack travel mm : 12.20
cm3/1000S. : +- 6.0 Spreed Tolerance	Rated speed rpm : 1097 Tolerance 1/min : +- 5
cm3/1000 strokes : 8.0 Check tolerance	rack travel mm : 4.00
cm3/1000S. : 12.0	+ rack travel mm : 0.85 + Tolerance mm : + 0.55 + Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
	Rated speed rpm : 1068 rack travel mm : 12.20
GUIDE SLEEVE POSITION	Rated speed rpm : 1098 Tolerance 1/min : +- 5 rack travel mm : 4.00
control lever position degree : - 3 Rated speed rpm : 800	rack travel mm : 0.85 Tolerance mm : +- 0.55
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 1069 rack travel mm : 12.20
	Rated speed rpm : 1099

Tolerance 1/min	: +- 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1070
rack travel mm	: 12.20
Rated speed rpm	: 1100
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm:	: +- 0.55
Rated speed rpm	: 1071
rack travel mm	: 12.20
Rated speed rpm	: 1101
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1072
rack travel mm	: 12.20
Rated speed rpm	: 1102
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
LOW IDLE	
control lever position degree tolerance degree	: 74.0 : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 650 rack travel mm : 4.20 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 650 rack travel mm : 4.70 Tolerance mm : +- 0.10

rack travel mm : 2.00

Rated speed rpm : 720

TORQUE CONTROL
Rated speed rpm : 1025
rack travel mm : 13.35
Tolerance mm : + 0.05

Rated speed rpm : 750 rack travel mm : 14.00 Tolerance mm : + 0.10

Rated speed rpm : 500 rack travel mm : 14.05 Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1700
rack travel mm : 14.00
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : rack travel mm : 7.90
Tolerance mm : +- 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 980 rack travel mm : 12.25 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1700
Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 230.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000s. : +- 6.0

rack travel mm : 14.05
Tolerance mm : +- 0.15

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 86.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 135.0

Tolerance

cm3/1000 strokes : \leftarrow 15.0

Check tolerance

cm3/1000s. : \leftarrow 19.0

LOW IDLE

Rated speed rpm : 650

Rack travel in mm : 4.70 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 23.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.09.98 : ISO 4113

Combination No. : 0 402 076 826

Injection pump

Pump designation : PES6P120A720RS3340

EP type number : 0 412 026 773

Governor

Governer design. : RSV650...1050P8A566

: -7

Governer no.

: 0 421 833 626

Cust. part No. : 87801590

Customer-spec. information

Customer : NH

Motor

: EP 040 B

Power KW

: 202.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

: 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

M05

x inside diameter : 3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

: +- 0.10 Tolerance

Check

tolerance °NW : ← 0.75

Barrel no. : 1

BASIC SETTING

-	
Rack travel in mm : 12.50 - Tolerance mm : + 0.05 -	Rated speed rpm : 1025 Aneroid pressure
Del. quantity	hPa : 1600 Del. quantity
cm3/1000 strokes : 185.0	cm3/1000 strokes : 185.0 Tolerance
Tolerance - cm3/1000 strokes : + 1.0 -	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance	- cm3/1000s. : +- 6.0 - Spreed - Tolerance
Spreed	cm3/1000 strokes : 5.0 Check tolerance
-	cm3/1000s. : 9.0
Tolerance cm3/1000 strokes : 5.0	
Check tolerance cm3/1000S. : 9.0	CONTROL LEVER
	control lever position degree : 95.0
Rated speed rom : 650	
Rated speed rpm : 650	- ASSEMBLY GOVERNOR SETTING
Rack travel in mm: 4.60	-
Tolerance mm : +- 0.10	- Rated speed rpm : 1067
Del. quantity	rack travel mm : 11.50
cm3/1000 strokes : 23.0	-
Tolerance	- Rated speed rpm : 1097
cm3/1000 strokes : +- 3.0	- Tolerance 1/min : +- 5
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 6.0	+
Spreed	rack travel mm : 0.85
Tolerance	Tolerance mm : +- 0.55
cm3/1000 strokes : 8.0	Rated speed rpm : 1300
Check tolerance	•
cm3/1000s. : 12.0	-
4	- Rated speed rpm : 1068
-	rack travel mm : 11.50
(B) SETTING OF INJECTION PUMP	-
WITH GOVERNOR	- Rated speed rpm : 1098
+	- Tolerance 1/min : +- 5
+	rack travel mm : 4.00
GUIDE SLEEVE POSITION	rack travel mm : 0.85
†	- Tolerance mm : + 0.55
	- Rated speed rpm : 1300
control lever	-
position degree : - 3	Poted aread area : 1040
Posts Appeal in my s 0.25	- Rated speed rpm : 1069
Rack travel in mm : 0.25	- rack travel mm : 11.50 -
TO COT MITTER THE TOTAL TO THE TOTAL	- Rated speed rpm : 1099
governor spring	- Tolerance 1/min : + 5
pre-tension	- rack travel mm : 4.00
click setting x : 2.50	- TOU
Jeron Secting A . 2.30	- rack travel mm : 0.85
	- Tolerance mm : + 0.55
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 1300
LOFF FOUN NEFTACK! WE LOFF FOUN OLD	114104 Opoca 1 pm 1 1000

M06

		†
Rated speed rpm rack travel mm	: 11.50	TORQUE CONTROL Rated speed rpm : 1025 rack travel mm : 12.50
Rated speed rpm Tolerance 1/min rack travel mm		+ Toterance mm : +- 0.05
rack travel mm	: 0.85	+ Rated speed rpm : 750 + rack travel mm : 13.25 + Tolerance mm : + 0.10
Tolerance mm Rated speed rpm	: +- 0.55 : 1300	+ Rated speed rpm : 650 + rack travel mm : 13.30 + Tolerance mm : + 0.15
Rated speed rpm rack travel mm		+
Rated speed rpm Tolerance 1/min rack travel mm	: +- 5	+ ANEROID/ALTITUDE + COMPENSATOR TEST +
rack travel mm	: 0.85	SETTING
Tolerance mm Rated speed rpm	: +- 0.55 : 1300	Rated speed rpm : 500 Pressure hPa : 1600 rack travel mm : 13.40 Tolerance mm : +- 0.15
Rated speed rpm rack travel mm	: 1072 : 11.50	Rated speed rpm : 500
Rated speed rpm Tolerance 1/min rack travel mm	: 1102 : + 5 : 4.00	Pressure hPa : rack travel mm : 7.70 - Tolerance mm : +- 0.15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : ← 0.55 : 1300	MEASUREMENT Rated speed rpm : 500
LOW IDLE		+ Pressure hPa : 980 + rack travel mm : 11.70 + Tolerance mm : +- 0.10
control lever position degree	: 76.0	Start interlock
	out bumper spring	+ Rated speed rpm : > 100
Rated speed rpm rack travel mm Tolerance mm	: 4.10	Check speed 1/min : > 80
Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 4.60	Aneroid pressure hPa : 1600 Rated speed rpm : 750
rack travel mm Rated speed rpm	: 2.00 : 750	Del. quantity cm3/1000 strokes : 209.0 Tolerance cm3/1000 strokes : + 3.0

Check tolerance cm3/1000s.	: +- 6.0
rack travel mm Tolerance mm	: 13.30 : +- 0.15
Aneroid pressure hPa Rated speed rpm	: - : 500
Del. quantity cm3/1000 strokes	
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 4.0
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.50 : +- 0.50
Del. quantity cm3/1000 strokes Tolerance	: 140.0
cm3/1000 strokes Check tolerance	: +- 15.0
cm3/1000s.	: ← 19.0
LOW IDLE	
Rated speed rpm	: 650
Rack travel in mm Tolerance mm Del. quantity	: 4.60 : + 0.10
cm3/1000 strokes Tolerance	: 23.0
cm3/1000 strokes	:

End of test specification sheet

cm3/1000s. : +- 6.0

cm3/1000 strokes : 8.0

: 12.0

Check tolerance

Check tolerance cm3/1000s.

Spreed Tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.09.98 Test oil : ISO 4113

Combination No. : 0 402 670 815

Injection pump

Pump designation : PE12P120A320LS7923

EP type number : 0 412 620 851

Governor

Governer design. : RSV375...950P0A701

Governer no. : 0 421 833 627

Cust. part No. : 0 280 742 002

Customer-spec. information Customer : MB-NFZ : OM 444 LA Motor

Power KW

: 605.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : ← 2.0

Tolerance °C

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 200
Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

: 12- 1- 5- 9- 8 Firing order

: - 3- 4- 11- 10 : - 2- 6- 7

: 0-45-60-105-120

: -165-180-225-240 : -285-300-345

Tolerance : +- 0.50

Check

: +- 0.75 tolerance °NW

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 12

BASIC SETTING

Party Appeal in the 17 /0	
Rack travel in mm: 13.40 Tolerance mm: + 0.10	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 256.0	Rated speed rpm : 930 Aneroid pressure
Tolerance cm3/1000 strokes : + 1.0	hPa : 1500 Del. quantity cm3/1000 strokes : 256.0
Check tolerance cm3/1000s. : + 4.0	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Spreed	Spreed Tolerance
Tolerance cm3/1000 strokes : 6.0	cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0
Check tolerance cm3/1000S. : 10.0	
	CONTROL LEVER
Rated speed rpm : 375	control lever position degree : 90.0
Rack travel in mm: 5.20 + Tolerance mm: + 0.10 + Del. quantity +	tolerance degree : +- 4.0 RATED SPEED
cm3/1000 strokes : 17.0 + Tolerance +	rack travel mm : 12.40 Rated speed rpm : 980
cm3/1000 strokes : + 3.0 + Check tolerance + 6.0 + 6.0	Tolerance 1/min : +- 5 rack travel mm : 4.00
Spreed + Tolerance +	Rated speed rpm : 1055 Tolerance 1/min : +- 5
cm3/1000 strokes : 8.0 + Check tolerance cm3/1000s. : 12.0 + cm3/1000s.	rack travel mm : 0.85 Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1200
WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	LOW IDLE
Solve Sceeve Position	control lever position degree : 72.0
control lever position degree : -3 Rated speed rpm : 800	tolerance degree : +- 4.0 Setting point w/out bumper spring
Rack travel in mm: 0.85	Rated speed rpm : 100
Tolerance mm : +- 0.55	CRT mm min. : > 13.00
governor spring pre-tension click setting x : 4.00	Testing:
+	Rated speed rpm : 375 rack travel mm : 5.20

Tolerance mm	: +- 0.10	+ Aneroid pressure + hPa : 1050
SET IDLE AUXILIA	RY SPRING	Rated speed rpm : 600 Del. quantity
rack travel mm	: 2.00	cm3/1000 strokes : 273.0 Tolerance
TOPOUT CONTROL		cm3/1000 strokes : +- 1.5 Check tolerance
TORQUE CONTROL Rated speed rpm rack travel mm	: 13.40	cm3/1000s. : +- 4.5 + Spreed
Tolerance mm		Tolerance cm3/1000 strokes : 8.0
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.80 : +- 0.10	Check tolerance cm3/1000s. : 12.0
ANDDOTD (ALTITUDE		Aneroid pressure
ANEROID/ALTITUDE COMPENSATOR TEST		Rated speed rpm : 500 Del. quantity
SETTING		cm3/1000 strokes : 146.0 Tolerance
Rated speed rpm	. 400	cm3/1000 strokes : +- 1.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm	: 1500 : 13.40	cm3/1000s. : +- 4.0 + Spreed + Tolerance
Rated speed rpm		cm3/1000 strokes : 8.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm	: – : 7.90	cm3/1000s. : 12.0
2-stage LDA setti	ing	STARTING FUEL DELIVERY
Rated speed rpm Pressure hPa rack travel mm	: 1050	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 275.0
MEASUREMENT		+ Tolerance - cm3/1000 strokes : +- 15.0
Rated speed rpm	: 600	+ Check tolerance + cm3/1000s. : +- 19.0
Pressure hPa rack travel mm Tolerance mm	: 450 : 8.50 : ← 0.10	
Pressure hPa	: 800	LOW IDLE
rack travel mm Tolerance mm	: 11.40 : +- 0.05	Rated speed rpm : 375
Pressure hPa rack travel mm	: 1200 : 13.10	Rack travel in mm: 5.20 Tolerance mm: + 0.10 Del. quantity
Tolerance mm	: ← 0.10	+ cm3/1000 strokes : 17.0 + Tolerance + cm3/1000 strokes : + 3.0
		── → Check tolerance
FUEL DELIVERY CHA	RACTERISTICS	+ cm3/1000s. : +- 6.0 + Spreed

Tolerance : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.09.98 Test oil : ISO 4113

Combination No. : 0 402 670 816

Injection pump

Pump designation : PE12P120A320LS7925

EP type number : 0 412 620 852

Governor

Governer design. : RSV375...950P0A702

Governer no. : 0 421 833 628

Cust. part No. : 0 280 741 902

Customer-spec. information Customer : MB-NFZ : OM 444 LA Motor Power KW : 493.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity
min. l/h : 160
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

: 0-45-60-105-120 Phasing

> : -165-180-225-240 : -285-300-345

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : ← 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 12

BASIC SETTING

	_	
Rack travel in mm Tolerance mm	: 12.50 : ← 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes	: 215.0	Rated speed rpm : 930 Aneroid pressure hPa : 1200
Tolerance cm3/1000 strokes	: + 1.0	Del. quantity cm3/1000 strokes : 215.0 Tolerance
Check tolerance cm3/1000s.	: +- 4.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Spreed		Spreed Tolerance
Tolerance cm3/1000 strokes	: 5.0	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s.	: 9.0	
		CONTROL LEVER
Rated speed rpm	: 375	control lever position degree : 72.0
Rack travel in mm Tolerance mm Del. quantity	: 4.40 : +- 0.10	tolerance degree : +- 4.0 RATED SPEED
cm3/1000 strokes Tolerance cm3/1000 strokes	+	rack travel mm : 11.50 Rated speed rpm : 980 Tolerance 1/min : +- 4
Check tolerance cm3/1000s.	: +- 6.0	rack travel mm : 4.00
Spreed Tolerance cm3/1000 strokes	: 8.0	Rated speed rpm : 1050 Tolerance 1/min : +- 4
Check tolerance cm3/1000s.	: 12.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1350
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	
	‡	LOW IDLE
GUIDE SLEEVE POSIT	ION	control lever
control lever	: - 3	position degree : 90.0 tolerance degree : +- 4.0
	: 800	Testing:
Rack travel in mm Tolerance mm		Rated speed rpm : 375 rack travel mm : 4.40 Tolerance mm : +- 0.10
governor spring pre-tension	‡	SET IDLE AUXILIARY SPRING
click setting x	: 4.00	rack travel mm : 2.00

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 930 : 12.50 : ← 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.50 : + 0.10	
Rated speed rpm rack travel mm Tolerance mm	: 600 : 11.90 : +- 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 900 : 12.10 : +- 0.05	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : - : 8.70 : + 0.20	
MEASUREMENT		
Rated speed rpm	: 600	
Pressure hPa rack travel mm Tolerance mm	: 350 : 9.20 : ← 0.10	
Pressure hPa rack travel mm Tolerance mm	: 500 : 10.70 : +- 0.10	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure		
hPa Rated speed rpm	: 1200 : 800	
Del. quantity cm3/1000 strokes Tolerance	: 231.0	
cm3/1000 strokes Check tolerance	: 3.0	
cm3/1000s. Spreed	: 6.0	

Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0	
Aneroid pressure hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes		
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 142.0 : + 1.0 : + 4.0 : 8.0 : 12.0	
STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 14.00 Tolerance mm : + 0.15 Del. quantity cm3/1000 strokes : 240.0 Tolerance cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : + 19.0		
LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: 4.40 : +- 0.10	

3.0

Tolerance

cm3/1000 strokes : +-

Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance 8.0

cm3/1000 strokes :

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.09.98
Test oil : 190 / 198

Combination No. : 0 400 876 433

Injection pump

Pump designation : PES6A95D32ORS2832 EP type number : 0 410 896 897

Governor

Governer design. : RSV500...1100A5C883R

Governer no. : 0 420 233 349

Cust. part No. :

Customer-spec. information Customer : SISU : 620WDE Motor Power KW : 136.0

TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.55 Tolerance mm : + 0.05 Check

tolerance mm : **←** 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 : +- 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

Beginning of delivery differende

and maximum rack

travel : 10.50 Tolerance mm : +- 1.50 Difference ° CS : 5.00

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 12.55 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes : 109.0	Aneroid pressure hPa : - Del. quantity
Tolerance cm3/1000 strokes : +- 1.0	cm3/1000 strokes : 109.0 Tolerance
Check tolerance cm3/1000S. : + 3.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
Spreed	Spreed Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 8.0
Check tolerance cm3/1000S. : 8.0	CONTROL LEVER
 ‡	CONTROL LEVER
Rated speed rpm : 500	<pre>control lever position degree : 97.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 3.80 + Tolerance mm: + 0.10 + Del. quantity	RATED SPEED rack travel mm : 10.30
cm3/1000 strokes : 16.0 + Tolerance +	Rated speed rpm : 1115 Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0 + Check tolerance + 4.5 + 4.5	rack travet mm : 4.00 Rated speed rpm : 1170
Spreed + Tolerance + cm3/1000 strokes : 5.5 +	Tolerance 1/min : +- 15 rack travel mm : 0.85
Check tolerance cm3/1000s. : 9.0	Tolerance mm : +- 0.55 Rated speed rpm : 1320
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : -3 Rated speed rpm : 800	control lever position degree : 74.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50 + Tolerance mm: + 0.20	Testing:
governor spring pre-tension click setting x : 3.75	Rated speed rpm : 500 rack travel mm : 3.80 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 540 Tolerance 1/min : +- 30
Rated speed rpm : 700	SET IDLE AUXILIARY SPRING

rack travel mm : 2.00 TORQUE CONTROL Rated speed rpm : 700 rack travel mm : 12.55 : **←** 0.10 Tolerance mm Rated speed rpm : 1070 rack travel mm : 10.80 Tolerance mm : +- 0.05 1070 Rated speed rpm : rack travel mm : 11.30 Tolerance mm : + 0.10 1000 Rated speed rpm : rack travel mm : 11.75 Tolerance mm : **←** 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure nra
rack travel mm : 12.55
: + 0.10 Rated speed rpm : 500 Pressure hPa 10.85 rack travel mm : : +- 0.10 Tolerance mm **MEASUREMENT** 500 Rated speed rpm : Pressure hPa rack travel mm : 11.30 : +- 0.15 Tolerance mm Pressure hPa 700 12.00 700 rack travel mm : +- 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure Rated speed rpm : 500

Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 3.0

STARTING FUEL DELIVERY

ESS test: With 12 V solenoid activated, rack must reach start position in max.

control lever setting.

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 1.00
Del. quantity
cm3/1000 strokes : 201.0
Tolerance
cm3/1000 strokes : + 7.5
Check tolerance
cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 500 3.80 Rack travel in mm : Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance : +- 4.5 cm3/1000S. Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000S. 9.0

End of test specification sheet

M19

Del. quantity

cm3/1000 strokes : 79.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.09.98 Test oil

Combination No. : F 002 A0Z 048

Injection pump

Pump designation : PES6A95D320/3RS2916

EP type number : F 002 A10 010

Governor

Governer design. : RSV425...950A0C927R

Governer no. : F 002 A20 235

Cust. part No. : 3283916

Customer-spec. information

Customer : CUMMINS

Motor

: 6BTA-160/1900

Power KW

: 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Outside diameter : 6.0

Test Lines : 1 680 750 014

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 7.50 Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

950

Rack travel in mm : 13.30

M20

Tolerance mm : + 0.05	Rated speed rpm : 950 Aneroid pressure
Del. quantity cm3/1000 strokes : 119.4	hPa : 850 Del. quantity
Tolerance	cm3/1000 strokes : 119.4
cm3/1000 strokes : +- 1.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : +- 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 4.0 Check tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	CONTROL LEVER
Rated speed rpm : 425	control lever position degree : 90.0 tolerance degree : +- 4.0
Rack travel in mm : 6.00	RATED SPEED
Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 23.5	rack travel mm : 12.30 Rated speed rpm : 1005 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : + 2.0	rack travel mm : 4.00
Check tolerance cm3/1000s. : + 4.5	Rated speed rpm : 1075 Tolerance 1/min : +- 5
Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1250
cm3/1000s. : 8.0	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1100 Tolerance 1/min : +- 15
	_
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE Rated speed rpm : 800	control lever position degree : 73.0 tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Control lever difference Grad: 17.0 tolerance degree: +- 6.0
governor spring pre-tension click setting x : 3.75	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD S	Rated speed rpm : 425
	

Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 425 rack travel mm : 6.0 6.00 Tolerance mm : \leftarrow 0.10 2.00 rack travel mm : Rated speed rpm : 575 Tolerance 1/min : ← 30 TORQUE CONTROL Rated speed rpm : 950 rack travel mm : 13.30 Tolerance mm : + 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa 850 500 Rated speed rpm : Pressure hPa rack travel mm 10.30 : **←** 0.10 Tolerance mm **MEASUREMENT** Rated speed rpm : 500 550 Pressure hPa rack travel mm : 12.50 Tolerance mm : + 0.20 Pressure hPa : 350 rack travel mm : 11.30 Tolerance mm : + 0.20 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa Rated speed rpm : 500

Check tolerance : + 3.0 cm3/1000s. STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 122.5 Tolerance cm3/1000 strokes : \leftarrow 10.0 Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 6.00 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 23.5 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance : +- 4.5 cm3/1000s. Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

End of test specification sheet

Del. quantity

Tolerance

cm3/1000 strokes : 80.8

cm3/1000 strokes : +- 1.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 18.09.98 Test oil : 180 4113

Combination No. : F 002 A0Z 050

Injection pump

Pump designation : PES6A95D320/3RS2916

EP type number : F 002 A10 010

Governor

Governer design. : RSV425...1050A0C930R

Governer no. : F 002 A20 236

Cust. part No. : 328 3917

Customer-spec. information Customer : CUMMINS : 6BT Motor

Power KW

: 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0Tolerance bar : \leftarrow 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : ← 1.0

Prestroke mm : +-: +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : **←** 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ← 0.50

Check

: +- 0.75 tolerance °NW

Start of delivery blocking

"NW after s.o.d. : 7.00 Tolerance : \leftarrow 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.25

M23

Tolerance mm	: ← 0.05	+ Rated speed + Aneroid pres
Del. quantity cm3/1000 strokes	: 98.2	hPa Del. quantit
Tolerance cm3/1000 strokes	: + 1.0	Tolerance cm3/1000 str
Check tolerance cm3/1000s.	: +- 3.0	- cm3/1000s. - Spreed
Spreed		+ Tolerance + cm3/1000 str + Check tolera
Tolerance cm3/1000 strokes	: 4.0	cm3/1000s.
Check tolerance cm3/1000s.	: 6.0	CONTROL LEVE
		control leve
Rated speed rpm	: 425	tolerance de
Rack travel in mm Tolerance mm	: 5.05 : +- 0.10	RATED SPEED rack travel
Del. quantity cm3/1000 strokes Tolerance	: 18.5	+ Rated speed + Tolerance 1/
cm3/1000 strokes Check tolerance	: + 2.0	rack travel Rated speed
cm3/1000s. Spreed	: +- 4.5	Tolerance 1/
Tolerance cm3/1000 strokes	: 6.0	+ rack travel + Tolerance mm
Check tolerance cm3/1000S.	: 8.0	+ Rated speed
(B) SETTING OF INJ	IECTION PLIMP	+ rack travel + Rated speed + Tolerance 1/
WITH GOVERNOR	CCTION TOTAL	Total Me 17
· ·		
GUIDE SLEEVE POSIT	TION	LOW IDLE
control lever position degree Rated speed rpm	: FREE : 800	control leve position deg tolerance de
Rack travel in mm Tolerance mm	: 0.50 : + 0.20	Control leve Grad tolerance de
governor spring pre-tension		Setting poin
click setting x	: 4.25	+ Rated speed
FULL LOAD DELIVERY	AT FULL LOAD STOP	+ rack travel + Tolerance mm

Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1050 : 900 : 98.2 : +- 1.0 : +- 3.0 : 4.0 : 6.0
CONTROL LEVER	
control lever position degree tolerance degree	
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 10.25 : 1095 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.50 : 1170 : + 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1350
rack travel mm Rated speed rpm Tolerance 1/min	: 4.50 : 1175 : +- 15
LOW IDLE	
control lever position degree tolerance degree	: 91.0 : +- 4.0

er difference : 17.0 egree : +- 6.0

nt w/out bumper spring

+ Rated speed rpm : 425 - rack travel mm : 4.05 Tolerance mm : +- 0.10

Rated speed rpm :	100 +	Del. quantity
	+	cm3/1000 strokes : 106.2
CRT mm min. :>	19.00	Tolerance cm3/1000 strokes : +- 2.0
Testing:	Ī	Check tolerance
rescing.	1	Check tolerance cm3/1000s. : +- 4.0
Rated speed rpm : rack travel mm : +-	425	
rack travel mm :	5.05	
Tolerance mm : +-	0.10	Aneroid pressure
	3.00	hPa : - Rated speed rpm : 500
rack travel mm : Rated speed rpm :	610 T	Del. quantity
Tolerance 1/min : +-	30	cm3/1000 strokes : 79.5
70001 41100 17111111	+	Tolerance
	 +	cm3/1000 strokes : +- 1.0
TORQUE CONTROL	+	Check tolerance
Rated speed rpm : 1	1050 +	cm3/1000s. : +- 3.0
rack travel mm : Tolerance mm : +-	11.25	
roterance mm : +=	U.05	
Rated speed rpm :	800	STARTING FUEL DELIVERY
Rated speed rpm : rack travel mm : Tolerance mm : +-	11.80	
Tolerance mm : +-	0.20	Rated speed rpm : 100
	+	rack travel mm : 20.50
ANEDOTO /ALTYTICE		Tolerance mm : +- 0.50
ANEROID/ALTITUDE COMPENSATOR TEST	<u>†</u>	Del. quantity cm3/1000 strokes : 121.5
COMPENSATOR TEST	I	Tolerance
	1	cm3/1000 strokes : +- 10.0
A		
SETTING	+	Check tolerance
	‡	cm3/1000s. : +- 15.0
	500	
Rated speed rpm : Pressure hPa :	500 +	
Rated speed rpm : Pressure hPa :	+	
Rated speed rpm : Pressure hPa : Rated speed rpm :	500 +	cm3/1000s. : +- 15.0
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa :	500	
Rated speed rpm : Pressure hPa : Rated speed rpm :	500 - 9.90	cm3/1000s. : +- 15.0
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +-	500 - 9.90	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm :	500 - 9.90	cm3/1000S. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +-	500 - 9.90 0.20	cm3/1000S. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +-	500 - 9.90 0.20	cm3/1000S. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm :	500 - 9.90 0.20 - 500	cm3/1000S. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm :	500 - 9.90 0.20 - 500 650 11.25	cm3/1000S. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm :	500 - 9.90 0.20 - 500 650	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +-	500 - 9.90 0.20 - 500 650 11.25 0.20	cm3/1000S. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000S. : +- 4.5
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +-	500 - 9.90 0.20 - 500 650 11.25 0.20 400	cm3/1000S. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000S. : +- 4.5 Spreed
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- Pressure hPa : rack travel mm : Tolerance mm : +-	500 - 9.90 0.20 - 500 650 11.25 0.20 400 10.60	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +-	500 - 9.90 0.20 - 500 650 11.25 0.20 400 10.60	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- Pressure hPa : rack travel mm : Tolerance mm : +-	500 - 9.90 0.20 - 500 650 11.25 0.20 400 10.60	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- Pressure hPa : rack travel mm : Tolerance mm : +-	500 	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- Pressure hPa : rack travel mm : Tolerance mm : +-	500 	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- Pressure hPa : rack travel mm : Tolerance mm : +-	500 	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- Pressure hPa : rack travel mm : Tolerance mm : +- FUEL DELIVERY CHARACTER	500 	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- Pressure hPa : rack travel mm : Tolerance mm : +- FUEL DELIVERY CHARACTER Aneroid pressure	500 - 9.90 0.20 - 500 650 11.25 0.20 400 10.60 0.20	Cm3/1000S. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000S. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000S. : 8.0
Rated speed rpm : Pressure hPa : Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- MEASUREMENT Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm : +- Pressure hPa : rack travel mm : Tolerance mm : +- FUEL DELIVERY CHARACTER Aneroid pressure	500 - 9.90 0.20 500 650 11.25 0.20 400 10.60 0.20 ISTICS	cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Rack travel in mm : 5.05 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.08.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 097

Injection pump

Pump designation : PES6A100b320/3RS3517

EP type number : F 002 A10 036

Governor

Governer design. : RSV550...750A7C983R

Governer no. : F 002 A20 027

Cust. part No. : 3814097

Customer-spec. information Customer : TATA

Motor

: 6BT

Power KW

: 86.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 9 451 037 430

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.90 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.00

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW

: **←** 0.75

Start of delivery blocking

"NW after s.o.d. : 9.00 : +- 0.10 Tolerance

Check

tolerance °NW

: +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 730

Rack travel in mm : 12.20 Tolerance mm : ← 0.05 Rack travel in mm: 6.05 Tolerance mm : + 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree : FREE Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : ← 0.20 governor spring pre-tension click setting x : 4.00CONTROL LEVER control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.20
Rated speed rpm : 750
Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 785 Tolerance $1/\min$: +- 5 Rated speed rpm : 850 rack travel mm : 4.00 Rated speed rpm : 795 Tolerance 1/min : + 10

control lever position degree : 81.0 tolerance degree : + 4.0 Control lever difference Grad : 13.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 550 rack travel mm : 5.05 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 Testing: Rated speed rpm : 550 rack travel mm : 6.05 Tolerance mm : +-0.10TORQUE CONTROL Rated speed rpm : 730 rack travel mm : 12.20 Tolerance mm : +- 0.05 Rated speed rpm : 750 rack travel mm : 11.20 Tolerance mm : + 0.20 FUEL DELIVERY CHARACTERISTICS rack travel mm : 11.20 Tolerance mm : + 0.20 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 12.70 Tolerance mm : \leftarrow 0.50

LOW IDLE

LOW IDLE

Rack travel in mm : 6.05 Tolerance reconstitution : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.09.98 : ISO 4113

Combination No. : F 002 A0Z 115

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1050A0C990R

Governer no. : F 002 A20 261

Cust. part No. : 3284491

Customer-spec. information

Customer : CUMMINS

Motor

: CUMMINS-4BTA-3.9

Power KW

: 79.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : x length mm : 600

2.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.45 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : +- 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.30 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 119.0

Tolerance cm3/1000 strokes	: +- 1.0 +
Check tolerance cm3/1000s.	+ 3.0
Spreed	
Tolerance cm3/1000 strokes :	4.0
Check tolerance cm3/1000s.	6.5
Rated speed rpm :	475
Rack travel in mm : Tolerance mm : Del. quantity	6.00 +- 0.10
cm3/1000 strokes :	22.0
cm3/1000 strokes : Check tolerance	← 2.0
cm3/1000s. : Spr eed	+ 4.5
	6.0
Check tolerance cm3/1000s. :	8.0
(B) SETTING OF INJEWITH GOVERNOR GUIDE SLEEVE POSITI	
control lever position degree : Rated speed rpm :	- 3
Rack travel in mm : Tolerance mm :	0.50 + 0.20
governor spring pre-tension click setting x :	2.50
FULL LOAD DELIVERY	AT FULL LOAD STOP
Rated speed rpm : Aneroid pressure hPa : Del. quantity	1050 I
cm3/1000 strokes :	119.0

Check tolerance cm3/1000s. : +- 3 Spreed Tolerance cm3/1000 strokes : 4 Check tolerance	.0 .0 .0
CONTROL LEVER	
control lever position degree : 100 tolerance degree : +- 4	.5 .0
RATED SPEED rack travel mm : 12. Rated speed rpm : 1115 Tolerance 1/min : +-	
rack travel mm : 4.0 Rated speed rpm : 1210 Tolerance 1/min : +-	00 5
rack travel mm : 0.8 Tolerance mm : + 0.9 Rated speed rpm : 1260	
rack travel mm : 4.0 Rated speed rpm : 1210 Tolerance 1/min : +-	00 15
LOW IDLE	
control lever position degree : 80 tolerance degree : +- 4	
Control lever difference Grad : 20 tolerance degree : +- 6	.5 .0
Setting point w/out bumper	spring
Rated speed rpm : 475 rack travel mm : 5.5 Tolerance mm : +- 0.7	

Rated speed rpm : 100

Testing:

CRT mm min. : > 19.00

Rated speed rpm : 475
rack travel mm : 6.00
Tolerance mm : + 0.10 : + - 0.10Tolerance mm rack travel mm : 2.00
Rated speed rpm : 585
Tolerance 1/min : + 30 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 13.30 : +- 0.05 Tolerance mm Rated speed rpm : 750 rack travel mm : 14.30 : +- 0.20 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST **SETTING** Rated speed rpm : 500 Pressure hPa 950 500 Rated speed rpm : Pressure hPa 10.80 rack travel mm Tolerance mm : + 0.20 **MEASUREMENT** Rated speed rpm : 500 Pressure hPa : 750 rack travel mm : 13.55 : +- 0.20 Tolerance mm Pressure hPa : 600 rack travel mm : 12.50 : +- 0.20 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure 950 hPa 750 Rated speed rpm : Del. quantity

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 78.4
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 121.4
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 15.0

LOW IDLE

Rated speed rpm : 475 Rack travel in mm : 6.00 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance 8.0 cm3/1000s.

End of test specification sheet

Tolerance

cm3/1000s.

Check tolerance

cm3/1000 strokes : 134.5

cm3/1000 strokes : +- 2.0

: +- 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 21.09.98 : ISO 4113

Combination No. : F 002 A0Z ...

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number :

Governor

Governer design. : RSV475...1100A0C920R

Governer no.

Cust. part No. : 3930147

Customer-spec. information Customer : CDC : 4BT590 Motor : 60.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.45 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 7.00 Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.75 Tolerance mm : +- 0.05

N₀4

Del. quantity cm3/1000 strokes : 87.0	+ Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance
Tolerance cm3/1000 strokes : + 1.0	cm3/1000S. : + 3.0 Spreed Tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000 strokes : 3.5 Check tolerance
Spreed	+ cm3/1000s. : 6.0
	1
Tolerance cm3/1000 strokes : 3.5	RATED SPEED rack travel mm : 9.70 Rated speed rpm : 1180
Check tolerance cm3/1000s. : 6.0	Tolerance 1/min : +- 5
	+ rack travel mm : 0.85
	+ Tolerance mm : + 0.55
Rated speed rpm : 475	Rated speed rpm : 1375
Rated speed (piii : 4/2	rack travel mm : 4.00
Rack travel in mm : 5.30	+ Rated speed rpm : 1260
Tolerance mm : +- 0.10	+ Tolerance 1/min : + 15
Del. quantity	+
cm3/1000 strokes : 16.5	†
Tolerance cm3/1000 strokes : +- 2.0	I
Check tolerance	+ LOW IDLE
cm $3/1000$ s. : \leftarrow 4.5	+
Spreed	+ Control lever difference
Tolerance cm3/1000 strokes : 3.5	+ Grad : 30.0 + tolerance degree : + 6.0
Check tolerance	+ toterance degree : . o.o
cm3/1000s. : 5.5	Setting point w/out bumper spring
	+ Rated speed rpm : 475
(B) SETTING OF INJECTION PUMP	+ rack travel mm : 4.80
WITH GOVERNOR	+ Tolerance mm : + 0.10
	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 475
	rack travel mm : 5.30
that town	Tolerance mm : +- 0.10
control lever position degree : - 3	İ
position degree . 5	+ TORQUE CONTROL
governor spring	Rated speed rpm : 1100
pre-tension	rack travel mm : 10.75
click setting x : 4.25	Tolerance mm : +- 0.05
	+ Rated speed rpm : 750
FULL LOAD DELIVERY AT FULL LOAD STOP	Traced speed (pii) . (50
Rated speed rpm : 1100	+
Aneroid pressure	+
hPa : -	†
Del. quantity	+ STARTING FUEL DELIVERY
cm3/1000 strokes : 87.0	T STAKITING FUEL DEFTACK!

50
50
.0
.0
.0

LOW IDLE

Rated speed rpm	:		475
Rack travel in mm Tolerance mm	:	-	5.30 0.10
Del. quantity cm3/1000 strokes	:		16.5
Tolerance cm3/1000 strokes	:	+-	2.0
Check tolerance cm3/1000s.	:	+-	4.5
Spreed Tolerance			3 F
cm3/1000 strokes Check tolerance	:		3.5
cm3/1000s.	:		5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.09.98 Test oil : ISO 4113

Combination No. : 0 401 846 891

Injection pump

Pump designation : PE6P120A720RS3216 EP type number : 0 411 826 781

Governor

Governer design. : RQV300...975PA898K

Governer no. : 0 421 815 197

Cust. part No. :

Customer-spec. information

Customer : IVECO-UNIC

Motor

: 8210.42.269

Power KW

: 261.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order

: 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : ← 0.75

BASIC SETTING

Rated speed rpm : 975

Rack travel in mm : 12.85Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 236.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: ← 4.0

Spreed

Tolerance cm3/1000 strokes	: 5.0	control lever
Check tolerance cm3/1000s.	: 9.0	Rated speed rp
		_ + Rack travel ir + Tolerance mm
Rated speed rpm	: 300	FULL LOAD DELI
Rack travel in m		+
Tolerance mm Del. quantity	: +- 0.10	Rated speed rp Aneroid pressu
cm3/1000 strokes	: 20.0	+ hPa
Tolerance cm3/1000 strokes	: ← 3.0	+ Del. quantity + cm3/1000 strok
Check tolerance		+ Tolerance
cm3/1000s. Spreed	: 6.0	cm3/1000 strok
Tolerance cm3/1000 strokes	: 8.0	+ cm3/1000s. + Spreed
Check tolerance		Tolerance
cm3/1000s.	: 12.0	cm3/1000 strok Check toleranc
(B) SETTING OF I	NJECTION PUMP	cm3/1000s.
WITH GOVERNOR	102012017 018	
GUIDE SLEEVE TRAV		CONTROL LEVER
		+ control lever
Rated speed rpm guide sleeve	: 975	<pre>position degre tolerance degre</pre>
travel mm	: 9.70	+ toterance degr
Tolerance mm		+ RATED SPEED
Rated speed rpm	: 300	+ rack travel mm + Rated speed rp
guide sleeve	. 300	Tolerance 1/mi
travel mm	: 1.80	+
Tolerance mm	: +- 0.20	+ rack travel mm + Rated speed rp
Rated speed rpm	: 400	Tolerance 1/mi
guide sleeve		+
travel mm Tolerance mm	: 3.60 : +- 0.40	+ rack travel mm + Tolerance mm
	. +- 0.40	•
toterance imm		+ Rated speed rp
Rated speed rpm	: 750	+ Rated speed rp
Rated speed rpm guide sleeve		+ Rated speed rp
Rated speed rpm guide sleeve travel mm	: 750 : 6.90 : + 0.20	+ Rated speed rp
Rated speed rpm guide sleeve travel mm Tolerance mm	: 6.90 : +- 0.20	Rated speed rp
Rated speed rpm guide sleeve travel mm Tolerance mm	: 6.90 : +- 0.20	
Rated speed rpm guide sleeve travel mm	: 6.90 : +- 0.20	Rated speed rp LOW IDLE control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 6.90 : +- 0.20 : 1200	LOW IDLE

position degree Rated speed rpm	: - 1 : 1015
Rack travel in mm Tolerance mm	: 16.50 : + 1.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm	: 975
Aneroid pressure hPa	: 1200
Del. quantity	
cm3/1000 strokes	: 236.0
Tolerance cm3/1000 strokes	: 1.0
Check tolerance	
cm3/1000S. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance	. 5.0
cm3/1000s.	: 9.0
CONTROL LEVER	
control lever	
position degree tolerance degree	: 121.0 : +- 4.0
RATED SPEED	44.90
rack travel mm Rated speed rpm	: 11.80 : 1020
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
Rated speed rpm Tolerance 1/min	: 1100 : +- 15
rack travel mm	0.50
Tolerance mm	: ← 0.50
Rated speed rpm	: 1200
LOW IDLE	
control lever	. 75.0
position degree tolerance degree	: +- 4.0
Setting point w/ou	ut bumper spring
Rated speed rpm	: 100

CRT mm min.	: > 6.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 4.50
Rated speed rpm	: 340
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 975 : 12.85 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 830 : 12.50 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.40 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 350 : 11.35 : +- 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 975 : 1200 : 12.85 : ← 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 975 : - : 9.70 : + 0.10
MEASUREMENT	
Rated speed rpm	: 975
Pressure hPa rack travel mm Tolerance mm	: 400 : 10.20 : ← 0.10
Pressure hPa rack travel mm Tolerance mm	: 600 : 11.45 : +- 0.05
Start interlock	

Rated speed rpm Rated speed rpm	: > 100 : < 240	
Check speed 1/min Check speed 1/min	: > 80 : < 260	
FUEL DELIVERY CHA	RACTERISTICS	_
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		
rack travel mm Tolerance mm	: 11.40 : + 0.10	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 132.0 : + 1.0 : + 4.0	
STARTING FUEL DEL	IVERY	_
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 210.0	
LOW IDLE		-
Rated speed rpm	: 300	
Rack travel in mm Tolerance mm	: 4.50 : +- 0.10	

Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.09.98 Test oil : ISO 4113

Combination No. : 0 402 036 745

Injection pump

Pump designation : PES6P110A720/3LS3131

: -3

EP type number : 0 412 016 734

Governor

Governer design. : RQ300/1100PA722-1 Governer no. : 0 421 801 461

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : OM447 Motor Power KW : 152.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 110
Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

: 173.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.35 Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : ← 1.50

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

Start of delivery mark

Tolerance : **←** 0.10

Check

: **←** 0.75 tolerance °NW

: 6 Barrel no.

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.50 Tolerance mm : +- 0.10

		1	guide sl
Del. quantity cm3/1000 strokes :	130.0	+	travel m Tolerand
Tolerance cm3/1000 strokes : +-	1.0	+	Rated sp guide sl travel m
Check tolerance cm3/1000s. : +-	3.5	+	Tolerand
Spreed		+	Rated sp guide sl travel m
Tolerance cm3/1000 strokes :	4.0	1	Tolerand
Check tolerance cm3/1000s. :	8.0	+	GUIDE SL
		1	control
		1	position
Rated speed rpm :	300	+ 1	Rated sp
Rack travel in mm :	7.30		Rack tra
	0.10	† .	Toleranc
Del. quantity cm3/1000 strokes :	17.0	I.	·
Tolerance	17.0	+	FULL LOA
cm3/1000 strokes : +-	3.0	+	
Check tolerance			Rated sp
cm3/1000s. : +-	6.0	ž.	Aneroid hPa
Spreed Tolerance			Del. qua
cm3/1000 strokes :	4.0		cm3/1000
Check tolerance			Toleranc
cm3/1000S. :	8.0		cm3/1000
			Check to
(B) SETTING OF INJECTIO	A) DIMD	1	cm3/1000 Spreed
WITH GOVERNOR	N FUTE		Toleranc
WZ III GOVENNON			cm3/1000
	·		Check to
GUIDE SLEEVE TRAVEL		† '	cm3/1000
Rated speed rpm : 1	159	Ī	
guide sleeve	137	. ↓ .	
travel mm :	7.65	+ (CONTROL
Tolerance mm : +-	0.15	+	
Datad aread pro	300	1	control position
Rated speed rpm : guide sleeve	300		tolerance
travel mm :	1.65	↓	, 5 (5 (5 (5 (5 (5 (5 (5 (5 (5
Tolerance mm : +-	0.20		RATED SP
	400		rack tra
	100		Rated spo Folerance
gui de sleeve travel mm :	7.00	I	o ter anti
	0.10	+ ,	ack tra
		→ F	Rated spe
Rated speed rpm :	396	+ 1	Tolerance

guide sleeve travel mm Tolerance mm	: 5.74 : ← 0.10
Rated speed rpm guide sleeve	: 470
travel mm Tolerance mm	: 7.00 : +- 0.10
Rated speed rpm	: 1260
guide sleeve travel mm	: 11.50 : +- 0.50
Tolerance mm	0.30
GUIDE SLEEVE POSI	TION
control lever	
position degree Rated speed rpm	: - 1 : 1162
Rack travel in mm Tolerance mm	: 9.90 : +- 1.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 1100
hPa	: -
Del. quantity	. 470 0
cm3/1000 strokes Tolerance	: 130.0
cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 3.5
Spreed	; — 3.3
Tolerance	
cm3/1000 strokes	: 4.0
Check tolerance cm3/1000S.	: 8.0
CONTROL LEVER	
control lever	402.2
position degree tolerance degree	: 102.0 : +- 4.0
RATED SPEED	0.50
rack travel mm Rated speed rpm	: 9.50 : 1153
Tolerance 1/min	: +- 8
rack travel mm	: 4.00
Rated speed rpm	: 1190
Tolerance 1/min	: +- 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1300

LOW IDLE

control lever

position degree : 78.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. :>8.80

Testing:

Rated speed rpm : 300 rack travel mm : 7.30 Tolerance mm : $\leftarrow 0.10$

rack travel mm : 2.00
Rated speed rpm : 388
Tolerance 1/min : +- 20

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 10.50 Tolerance mm : +--- 0.10

Rated speed rpm : 600 rack travel mm : 10.50 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : --Rated speed rpm : 600

Del. quantity

cm3/1000 strokes : 100.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000\$. : +- 5.0

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 140.0

Tolerance

loterance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 7.30
Tolerance mm : + 0.10
Del. quantity

cm3/1000 strokes : 17.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000S. : +- 6.0 Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.09.98 Test oil : ISO 4113

Combination No. : 0 402 036 745H

Injection pump

Pump designation : PES6P110A720/3LS3131

: -3

EP type number : 0 412 016 734

Governor:

Governer design. : RQ300/1100PA722-1

Governer no. : 0 421 801 461

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : 0M447 Power KW : 152.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 110 Tolerance l/h : ← 10.0

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.35 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : _6- 2- 4- 1- 5-

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 0.10

Del. quantity cm3/1000 strokes : 117.0	<pre>guide sleeve travel mm : 5.70 Tolerance mm : +- 0.10</pre>
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 470 guide sleeve
Check tolerance cm3/1000s. : +- 3.5	travel mm : 7.00 Tolerance mm : + 0.10
Spreed	Rated speed rpm : 1260 guide sleeve travel mm : 11.50
Tolerance cm3/1000 strokes : 4.0	Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : 8.0	GUIDE SLEEVE POSITION
700	control lever position degree : -1
Rated speed rpm : 300	Rated speed rpm : 1162
Rack travel in mm : 7.30 Tolerance mm : + 0.10 Del. quantity	Rack travel in min: 9.90 Tolerance mm: +- 1.30
cm3/1000 strokes : 17.0	FULL LOAD DELIVEDY AT FULL LOAD STOD
Tolerance cm3/1000 strokes : +- 3.0	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	Rated speed rpm : 1100
cm3/1000S. : +- 6.0 Spreed	+ Aneroid pressure + hPa : -
Tolerance	Del. quantity
cm3/1000 strokes : 4.0	+ cm3/1000 strokes : 117.0
Check tolerance cm3/1000s. : 8.0	+ Tolerance + cm3/1000 strokes : +- 1.0
CM3/10005. : 0.0	Check tolerance
	+ cm3/1000s. : $+$ 3.5
(B) SETTING OF INJECTION PUMP	+ Spreed
WITH GOVERNOR	+ Tolerance + cm3/1000 strokes : 4.0
	+ Check tolerance
GUIDE SLEEVE TRAVEL	+ cm3/1000s. : 8.0
Rated speed rpm : 1157 guide steeve	<u> </u>
travel mm : 7.44	+ CONTROL LEVER
Tolerance mm : + 0.15	+
Rated speed rpm : 300	+ control lever + position degree : 102.0
guide sleeve	+ tolerance degree : +- 4.0
travel mm : 1.59	+
Tolerance mm : +- 0.20	+ RATED SPEED + rack travel mm : 9.50
Rated speed rpm : 1100	+ Rated speed rpm : 1153
guide sleeve	+ Tolerance 1/min : + 8
travel mm : 7.00	†
Tolerance mm : +- 0.10	+ rack travel mm : 4.00 + Rated speed rpm : 1190
Rated speed rpm : 396	+ Tolerance 1/min : +- 15

rack travel mm : 0.75 Tolerance mm : ← 0.75 Rated speed rpm : 1300

LOW IDLE

control lever

78.0 position degree : tolerance degree : +- 4.0

Setting point w/out bumper spring

300 Rated speed rpm :

CRT mm min. : > 8.80

Testing:

300 Rated speed rpm rack travel mm 7.30 : +- 0.10 Tolerance mm

rack travel mm 2.00 Rated speed rpm : 388 Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 10.50 Tolerance mm : +- 0.10

600 Rated speed rpm : 10.50 rack travel mm : : + - 0.10Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 600 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 88.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance cm3/1000s.

: +-5.0

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

9.0 cm3/1000s.

STARTING FUEL DELIVERY

100 Rated speed rpm :

Del. quantity cm3/1000 strokes : 140.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm : 300

7.30 Rack travel in mm : Tolerance mm : +- 0.10 Del. quantity

cm3/1000 strokes : 17.0 Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance cm3/1000s. : +--6.0

Spreed

Tolerance cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 10.09.98 Test oil

Combination No. : 0 402 046 885

Injection pump

Pump designation : PES6P11DA32ORS3406

EP type number : 0 412 016 760

Governor

Governer design. : RQV300...1100PA1398

Governer no. : 0 421 814 213

Cust. part No. : 11032819 P01 10.9.97

Customer-spec. information

Customer : VCE

Motor

: TD63 KGE

Power KW

: 93.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 1.5

Tolerance l/h: \leftarrow 20.0

Test nozzle holde

assembly

: 0 462 191 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 2.45 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW

: **←** 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.80

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 122.0	Tolerance mm : +- 0.25
		Rated speed rpm : 1390
Tolerance		guide sleeve
cm3/1000 strokes	: +- 1.0	travel mm : 11.50 Tolerance mm : +- 0.50
Check tolerance		Toterance mm : + 0.50
cm3/1000s.	: +- 3.0	NO. 17.17.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.
Ch57 10005.	1	GUIDE SLEEVE POSITION
Spreed	+	
•	+	
Tolerance	+	control lever
cm3/1000 strokes	: 4.0 +	position degree : - 1
Object to be a server		Rated speed rpm : 1237
Check tolerance cm3/1000s.	: 6.0	Rack travel in mm : 10.70
CW21 10002.	: 6.0	Tolerance mm : +- 1.30
		rote: ance han 1.50
	1	
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
, ,	+	
Rack travel in mm		Rated speed rpm : 600
,	: +- 0.10 +	Aneroid pressure
Del. quantity	. 35.0	hPa : 1500
cm3/1000 strokes	: 25.0	Del. quantity cm3/1000 strokes : 122.0
Tolerance cm3/1000 strokes	· + 20 I	Tolerance
Check tolerance	I	cm3/1000 strokes : +- 1.0
	: +- 5.0	Check tolerance
Spreed	1	cm3/1000s. : +- 3.0
Tolerance	+	Spreed
cm3/1000 strokes	: 4.0	Tolerance
Check tolerance	+	cm3/1000 strokes : 4.0
cm3/1000s.	: 6.0 +	Check tolerance
	†	cm3/1000s. : 6.0
(B) SETTING OF INJ	ECTION DIMO	
WITH GOVERNOR	I I	RATED SPEED
WITH GOVERNOR	1	rack travel mm : 11.00
		Rated speed rpm : 1140
GUIDE SLEEVE TRAVE	L +	Tolerance 1/min : + 5
	+	
Rated speed rpm	: 1162 +	rack travel mm : 0.50
guide sleeve		Tolerance mm : + 0.50
travel mm Tolerance mm	: 8.57 : +- 0.15	Rated speed rpm : 1330
roterance inn	. = 0.13	
Rated speed rpm	: 315	
guide sleeve	· • • • • • • • • • • • • • • • • • • •	
travel mm	: 1.61	LOW IDLE
	: + 0.20	
	+	Testing:
	: 818 +	
guide sleeve	+	Rated speed rpm : 350
travel mm	: 5.37	rack travel mm : 5.90
Tolerance mm	: +- 0.25	Tolerance mm : +- 0.10
Rated speed rpm	: 510	
guide sleeve	. J.0	TORQUE CONTROL
<u> </u>	: 3.11	Rated speed rpm : 600
	• • •	

N18

rack travel mm Tolerance mm	: 12.80 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 805 : 12.30 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 780 : 12.50 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1500
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: -
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 320 : 1.90 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 100 : 0.25 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1500 : 900
Del. quantity cm3/1000 strokes	: 103.0

2.0

Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 6.0 : 10.0
rack travel mm Tolerance mm	: 12.30 : + 0.10
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 80.0 : + 1.0 : + 4.0
STARTING FUEL DEL	
Rated speed rpm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : + 0.20 : 100.0 : + 10.0 : + 14.0
LOW IDLE	
Rated speed rpm	: 350
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: 5.90 : +- 0.10 : 25.0
Tolerance cm3/1000 strokes	: + 2.0
Check tolerance cm3/1000s. Spreed	: +- 5.0
•	4.0
Tolerance cm3/1000 strokes Check tolerance	: 4.0

End of test specification sheet

Spreed

Tolerance cm3/1000 strokes : +-

Check tolerance cm3/1000s. : +- 5.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.01.97 Test oil : ISO 4113

Combination No. : 0 402 648 932

Injection bump

Pump designation : PE8P120A320LS7849

EP type number : 0 412 628 864

Governor

Governer design. : RQV300...1050PA1034

Governer no. : 0 421 813 993

Cust. part No. :

Customer-spec. information

Customer : LIEBHERR

: D 9308 TI

Motor Power KW

: 360.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : **←** 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.05

Tolerance mm : ← 0.05

Del. quantity

cm3/1000 strokes : 263.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

N20

Tolerance cm3/1000 strokes :	5.0	control lever position degree : - 1
Check tolerance cm3/1000s. :	9.0	Rated speed rpm : 1185
		Rack travel in mm : 14.00 Tolerance mm : + 1.30
Rated speed rpm :	350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : Tolerance mm : Del. quantity	5.30 + 0.10	Rated speed rpm : 1050 Aneroid pressure
cm3/1000 strokes : Tolerance	21.0	hPa : 1500 Del. quantity
cm3/1000 strokes : Check tolerance	← 3.0	cm3/1000 strokes : 263.0 Tolerance
	+- 6.0	cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance cm3/1000 strokes :	6.0	cm3/1000s. : +- 4.0 Spreed
Check tolerance cm3/1000s. :	10.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
(B) SETTING OF INJE	CTION PUMP -	cm3/1000s. : 9.0
W1111 007E1(101)	-	CONTROL LEVER
GUIDE SLEEVE TRAVEL		+
Rated speed rpm : guide sleeve	-	tontrol lever position degree : 107.0 tolerance degree : +- 4.0
	6.60 +- 0.30	RATED SPEED : 14.00
Rated speed rpm : guide sleeve	350	Rated speed rpm : 1105 Tolerance 1/min : +- 5
travel mm :	1.90 +- 0.20	rack travel mm : 4.00
	405	Rated speed rpm : 1215 Tolerance 1/min : +- 15
guide sleeve travel mm : Tolerance mm :	2.65 +- 0.25	rack travel mm : 0.70 Tolerance mm : +- 0.70
Rated speed rpm :	550	Rated speed rpm : 1300
guide sleeve travel mm :	4.40	
	+ 0.20	LOW IDLE
Rated speed rpm : guide sleeve	1118	
travel mm :	10.50 ← 0.10	control lever position degree : 72.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION		- Setting point w/out bumper spring
	1	Rated speed rpm : 250

CRT mm min.	: > 8.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.30 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 460 : +- 30
Rated speed rpm	: 385
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 15.05 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700 : 1500 : 15.05 : +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700 : – : 11.80 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 700
Pressure hPa rack travel mm Tolerance mm	: 870 : 12.60 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 1130 : 14.15 : ← 0.05

Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: 	1.0 4.0
Spreed Tolerance cm3/1000 strokes		8.0
Check tolerance cm3/1000s.	:	12.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting.

Rated speed rpm	:		100
rack travel mm	:		20.50
Tolerance mm	:	+-	0.50
Del. quantity			
cm3/1000 strokes	:		165.0
Tolerance			
cm3/1000 strokes	:	+-	10.0
Check tolerance			
cm3/1000S.	:	+-	14.0

1	OU	TDI	_

Rated speed rpm	:	350	
Rack travel in mm Tolerance mm	: : +	5.30 - 0.10	
Del. quantity cm3/1000 strokes Tolerance	:	21.0	
cm3/1000 strokes	: +	- 3.0	
Check tolerance cm3/1000s. Spreed	; +-	- 6.0	
Tolerance cm3/1000 strokes	:	6.0	
Check tolerance cm3/1000s.	:	10.0	

End of test specification sheet

hPa

Aneroid pressure

Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 194.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.09.98 Test oil : ISO 4113

Combination No. : 0 402 648 932A

Injection pump

Pump designation : PE8P120A320LS7849 EP type number : 0 412 628 864

Governor

Governer design. : RQV300...1050PA1034

Governer no. : 0 421 813 993

Cust. part No. :

Customer—spec. information
Customer : LIEBHERR
Motor : D 9308 TI
Power KW : 360.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : \leftarrow 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6 :-3-5-4

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 263.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance cm3/1000 strokes : 5.0	+ control lever + position degree : - 1
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 1185
	Rack travel in mm: 14.00 Tolerance mm: +- 1.30
Rated speed rpm : 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 5.30	TOLL EURO DELIVERY AT TOLL LOAD STOT
Tolerance mm : +- 0.10	Rated speed rpm : 1050
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 21.0 Tolerance	hPa : 1500 Del. quantity
cm3/1000 strokes : +- 3.0	+ cm3/1000 strokes : 263.0
Check tolerance	+ Tolerance
cm3/1000s. : +- 6.0	+ cm3/1000 strokes : +- 1.0
Spreed	+ Check tolerance
Tolerance cm3/1000 strokes : 6.0	+ cm3/1000s. : +- 4.0 + Spreed
Check tolerance	Tolerance
cm3/1000s. : 10.0	cm3/1000 strokes : 5.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP	- cm3/1000s. : 9.0
WITH GOVERNOR	Ī
WITH GOVERNOR	
	+ CONTROL LEVER
GUIDE SLEEVE TRAVEL	†
Rated speed rpm : 780	+ control lever + position degree : 107.0
guide sleeve	tolerance degree : + 4.0
travel mm : 6.60	+
Tolerance mm : +- 0.30	+ RATED SPEED
750	+ rack travel mm : 14.00
Rated speed rpm : 350 guide sleeve	+ Rated speed rpm : 1105 + Tolerance 1/min : +- 5
travel mm : 1.90	T locerance trimin
Tolerance mm : ← 0.20	rack travel mm : 4.00
	+ Rated speed rpm : 1215
Rated speed rpm : 405	
Rated speed rpm : 405 guide sleeve	Rated speed rpm : 1215 Tolerance 1/min : +- 15
Rated speed rpm : 405	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550 guide sleeve	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550 guide sleeve travel mm : 4.40	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550 guide sleeve	Rated speed rpm : 1215 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1300
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550 guide sleeve travel mm : 4.40 Tolerance mm : +- 0.20 Rated speed rpm : 1118	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550 guide sleeve travel mm : 4.40 Tolerance mm : +- 0.20 Rated speed rpm : 1118 guide sleeve	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70 Rated speed rpm : 1300 LOW IDLE
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550 guide sleeve travel mm : 4.40 Tolerance mm : +- 0.20 Rated speed rpm : 1118 guide sleeve travel mm : 10.50	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70 Rated speed rpm : 1300 LOW IDLE control lever
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550 guide sleeve travel mm : 4.40 Tolerance mm : +- 0.20 Rated speed rpm : 1118 guide sleeve	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70 Rated speed rpm : 1300 LOW IDLE control lever position degree : 72.0
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550 guide sleeve travel mm : 4.40 Tolerance mm : +- 0.20 Rated speed rpm : 1118 guide sleeve travel mm : 10.50	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70 Rated speed rpm : 1300 LOW IDLE control lever
Rated speed rpm : 405 guide sleeve travel mm : 2.65 Tolerance mm : +- 0.25 Rated speed rpm : 550 guide sleeve travel mm : 4.40 Tolerance mm : +- 0.20 Rated speed rpm : 1118 guide sleeve travel mm : 10.50	Rated speed rpm : 1215 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70 Rated speed rpm : 1300 LOW IDLE control lever position degree : 72.0

CRT mm min. : > 8.50 Testing: 350 Rated speed rpm : rack travel mm : 5.30 : **←** 0.10 Tolerance mm 2.00 rack travel mm : Rated speed rpm : 460 Tolerance 1/min : +-Rated speed rpm : 385 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 15.05 Tolerance mm : + 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 700 Pressure hPa : rack travel mm : 1500 15.05 Tolerance mm : + 0.05 Rated speed rpm : 700 Pressure hPa : rack travel mm : 11.80 Tolerance mm : +- 0.10 **MEASUREMENT** Rated speed rpm : 700 Pressure hPa : 1130 rack travel mm : 14.15 : +- 0.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 700
Del. quantity

cm3/1000 strokes : 194.5

Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

STARTING FUEL DELIVERY

ESS test: With 24 V solencid activated, rack must reach start position in max. control lever setting.

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 165.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm : 350 Rack travel in mm: 5.30 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance : +- 6.0 cm3/1000s. Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0